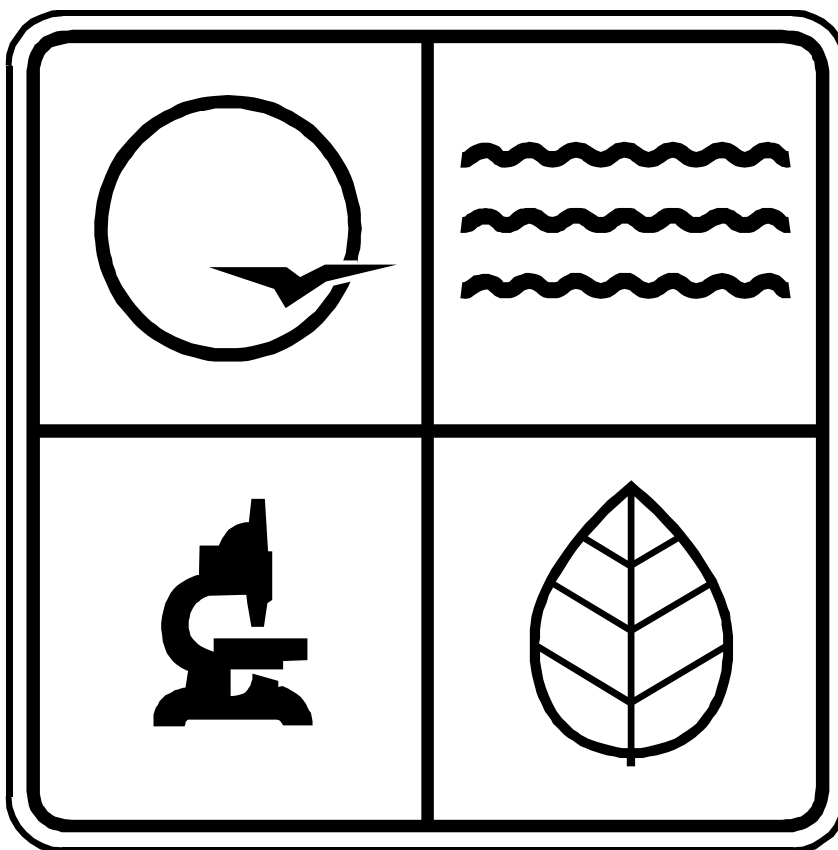


# **UNDERSTANDING ENVIRONMENTAL REGULATIONS AND PERMITS**

**March 8, 2001**

**Missouri Department of Natural Resources  
Technical Assistance Program  
1-800-361-4827**



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# INTRODUCTION

This document is designed as a guide for businesses and other facilities to identify permits they may need from the Missouri Department of Natural Resources, Division of Environmental Quality. Also in this guide are federal regulations and programs that are enforced primarily by the Environmental Protection Agency (EPA). Some businesses and facilities that may require environmental permits are: auto body shops, campgrounds, dry cleaners, gasoline service stations, grain elevators, mobile home parks, motor vehicle salvage yards, print shops, rock quarries, and sawmills.

The federal regulations referred to in this document for EPA can be found in Title 40 of the Code of Federal Regulations (CFR). The CFRs are available from the United States Government Printing Office, your local library, or on the Internet at <http://www.access.gpo.gov/nara/cfr/index.html>.

The regulations for the Missouri Department of Natural Resources are found in Title 10 of the Missouri Code of State Regulations (CSR). The CSRs are available from the Secretary of State's Office at:

State Information Center  
P.O. Box 778  
Jefferson City, Missouri 65102  
Telephone: (573) 751-4015

The CSRs can also be found on the Internet at <http://mosl.sos.state.mo.us/csr/csr.htm>.

The Division of Environmental Quality consists of 9 programs: Air Pollution Control Program (APCP), Environmental Services Program (ESP), Hazardous Waste Program (HWP), Land Reclamation Program (LRP), Public Drinking Water Program (PDWP), Soil and Water Conservation Program (SWCP), Solid Waste Management Program (SWMP), Technical Assistance Program (TAP), and Water Pollution Control Program (WPCP). To be closer to the public, there are six regional offices throughout the state. The regional offices are located in Jefferson City, Kansas City, Macon, Poplar Bluff, St. Louis, and Springfield. There are also seven satellite offices throughout the state. They are located in Branson, Festus, LaGrange, Neosho, Osage Beach, Sullivan, and Troy.

The Technical Assistance Program (TAP) is a nonregulatory program within the Division of Environmental Quality (DEQ). TAP provides assistance, information, education, and training to help Missouri's businesses, local governments, agricultural operations, wastewater operators, and the general public understand and comply with environmental regulations and statutes. This information is provided through telephone conversations, environmental workshops, meetings, presentations, and training. TAP also conducts site visits and detailed compliance and pollution prevention assessments.

The Business Assistance Unit provides on-site visits for environmental permit application guidance, compliance issues, and conducts workshops. The Business Environmental Management Institute (BEMI) is a series of workshops tailored for specific industries to help them meet or exceed regulatory requirements. The unit publishes *TAP into DNR*, a quarterly newsletter addressing environmental questions, new and changing regulations, and upcoming events. The unit also publishes *TankWise*, a biannual newsletter addressing the concerns of the regulated tank community.

The Agricultural Assistance Unit provides technical assistance to owners and operators of farms and agricultural businesses as well as to people living in rural areas. This unit provides environmental permit and letter of approval application guidance, environmental evaluation of facilities, animal waste disposal operations assistance, secondary containment, and air pollution control guidance for agricultural chemical facilities.

The Government Assistance Unit provides assistance for municipalities, counties, drinking water and sewer districts, and other local government entities. Guidance relates to compliance with DEQ regulations, user charge assistance, and financial opportunities including grant and loan application assistance. The unit also conducts the Environmental Management Institute (EMI). The EMI is designed to help local government leaders make better environmental decisions.

The Environmental Education Unit focuses on classroom training and educational materials for Missouri's elementary and secondary school teachers.

The Pollution Prevention Unit encourages reducing or eliminating pollutants before they are created. This eliminates the need to treat or dispose of the pollutant or waste later. The unit provides information and assistance to businesses and the public to encourage the reduction of the use of hazardous material (including household hazardous waste), energy, water, and other resources to reduce pollution and waste.

The On-site Assessment Team consists of members from the Agricultural Assistance Unit, Business Assistance Unit, Government Assistance Unit, and Pollution Prevention Unit. They provide on-site assessments for individual facilities. An assessment is a multimedia environmental evaluation of a facility.

The Operator Certification and Training Unit coordinates the certification and training of Missouri's drinking water operators, wastewater operators, and staff responsible for large animal feeding operations. The unit also publishes a bimonthly newsletter, the *Water and Wastewater Digest* that keeps operators informed of upcoming training and periodic changes in the regulations.

The Information Service Unit provides a direct link with the Division of Environmental Quality. Operators answer the DEQ toll-free telephone line (800) 361-4827 and put the caller in contact with the TAP environmental professional most capable of answering their questions. This unit

also distributes the division's publications and materials, including fact sheets, technical bulletins, videos, and the publication "Environmental Permits and How to Obtain Them."

"Environmental Permits and How To Obtain Them" outlines individual environmental permits, certifications, registrations, and licenses. It indicates the permit length, processing time and renewal, fees, and other specific permit issues.

"Environmental Permits and How To Obtain Them" can be used in conjunction with "Understanding Environmental Regulations and Permits" for detailed permit information.

"Environmental Permits and How to Obtain Them" is found on the web at <http://www.dnr.state.mo.us/deq/tap/pub98.pdf>. "Understanding Environmental Regulations and Permits" may be found on the web at <http://www.dnr.state.mo.us/deq/tap/pub595.pdf>.

Questions concerning this document or environmental issues may be directed to:

Technical Assistance Program (TAP)

P. O. Box 176

Jefferson City, MO 65102-0176

(573) 526-6627

(800) 361-4827 toll-free

(573) 526-5808 fax

Visit TAP's web site at <http://www.dnr.state.mo.us/deq/tap/hometap.htm>.

## ACRONYMS

Acronym	Description
APCP	Air Pollution Control Program
API	American Petroleum Institute
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
ATG	Automatic Tank Gauge
ATRS	Automatic TRI Reporting Software
BACT	Best Achievable Control Technology
BEMI	Business Environmental Management Institute
BMP	Best Management Practices
BTEX	Benzene, Toluene, Ethyl Benzene, Xylene
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAFO	Concentrated Animal Feeding Operations
CALM	Cleanup Levels for Missouri
CEPPO	Chemical Emergency Preparedness & Prevention Office
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CO	Carbon monoxide
CP	Cathodic Protection
CSR	Code of State Regulations
DED	Department of Economic Development
DEQ	Division of Environmental Quality
DGLS	Division of Geology and Land Survey
DOH	Department of Health
EHS	Extremely Hazardous Substance
EIERA	Environmental Improvement and Energy Recovery Authority
EIQ	Emissions Inventory Questionnaire
EMI	Environmental Management Institute
EMS	Environmental Management System
EPA	Environmental Protection Agency
EPCRA	Emergency Planning Community Right-to-Know Act
ESP	Environmental Services Program
FAI	Financial Assurance Instrument
FAQ	Frequently Asked Questions
FR	Federal Register
FRP	Fiberglass Reinforced Plastic
gpd	Gallons per Day
GW	Groundwater

<b>Acronym</b>	<b>Description</b>
HAPs	Hazardous Air Pollutants
HWP	Hazardous Waste Program
ISO	International Standards Organization
LAER	Lowest Achievable Emission Rate
lbs.	Pounds
LEPC	Local Emergency Planning Committee
LEPD	Local Emergency Planning District
LQG	Large Quantity Generator
LQH	Large Quantity Handler
LRP	Land Reclamation Program
LUST	Leaking Underground Storage Tank
MACC	Missouri Air Conservation Commission
MACT	Maximum Achievable Control Technology
MDA	Missouri Department of Agriculture
MEK	Methyl Ethyl Ketone
MERC	Missouri Emergency Response Commission
MHDR	Maximum Hourly Design Rate
MoDNR	Missouri Department of Natural Resources
MSDS	Material Safety Data Sheet
MSW	Municipal Solid Waste
MTBE	Methyl Tertiary Butyl Ether
NAAQS	National Ambient Air Quality Standards
NACE	National Association of Corrosion Engineers
NESHAP	National Emission Standard for Hazardous Air Pollutants
NLIC	National Lead Information Center
NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standard
OSHA	Occupational Safety and Health Administration
P2	Pollution Prevention
PCB	Polychlorinated Biphenyls
PDWP	Public Drinking Water Program
P.E.	Professional Engineer
pH	Measure of Acidity or Alkalinity (0-6 Acid; 7 Neutral; 8-14 Alkaline)
PL	Public Law
PM <sub>10</sub>	Particulate Matter, 10 microns diameter or smaller (dust)
POTW	Publicly Owned Treatment Works
PPA	Pollution Prevention Act
ppb	Parts per Billion = microgram/liter (liquid) or microgram/kilogram (solid)
ppm	Parts per Million = milligram/liter (liquid) or milligram/kilogram (solid)
PSTIF	Petroleum Storage Tank Insurance Fund
PTE	Potential to Emit (also called Potential Emissions)
RACT	Reasonably Achievable Control Technology

<b>Acronym</b>	<b>Description</b>
RBCA	Risk Based Corrective Action
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Plan/Program
RQ	Reportable Quantity
RSMo.	Revised Statutes of Missouri
SARA	Superfund Amendments and Reauthorization Act
SCC	Source Classification Code
SEMA	State Emergency Management Agency
SIC	Standard Industrial Classification
SIR	Statistical Inventory Reconciliation
SO <sub>x</sub>	Sulfur Oxides
SPCC	Spill Prevention, Control and Countermeasure
SQG	Small Quantity Generator
SQH	Small Quantity Handler
SWCP	Soil and Water Conservation Program
SWMP	Solid Waste Management Program
TAP	Technical Assistance Program
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TPQ	Threshold Planning Quantity
TRI	Toxic Release Inventory
TSD	Treatment, Storage, Disposal facility
UST	Underground Storage Tank
VCP	Voluntary Cleanup Program
VOC	Volatile Organic Compounds
WPCP	Water Pollution Control Program
www	World Wide Web

# AIR POLLUTION CONTROL

Air pollution sources in Missouri are regulated by the Missouri Department of Natural Resources (MoDNR), Division of Environmental Quality (DEQ), Air Pollution Control Program (APCP), and the U.S. Environmental Protection Agency (EPA). They administer programs created by the federal **Clean Air Act (CAA)**, **Clean Air Act Amendments (CAAA)**, and Missouri Air Conservation Law.

The MoDNR Air Pollution Control Program (APCP) administers the federal program and enforces state-only regulations that are considered beneficial to the health and well being of citizens. These air regulations limit opacity, dust emissions, and prohibit odorous emissions. The primary state enabling legislation is the Missouri Air Conservation Law found in Chapter 643 (RSMo). The portion of the Code of State Regulations (CSR) that governs and outlines the Program's responsibilities is recorded in 10 CSR 10. There are four local government agencies that also have the authority to regulate air emissions: City of Kansas City, City of Springfield, City of St. Louis, and County of St. Louis.

CAA requirements include:

*National Ambient Air Quality Standards (NAAQS)* are health-based standards applied to six "criteria pollutants": carbon monoxide, lead, nitrogen oxides, ozone, particulates, and sulfur oxides.

*National Emission Standards for Hazardous Air Pollutants (NESHAP)*, which are also health-based standards, apply to 188 hazardous pollutants not covered by NAAQS including, but not limited to, asbestos, benzene, beryllium, inorganic arsenic, mercury, radionuclides, and vinyl chloride.

*New Source Performance Standards (NSPS)* are technology-based minimum standards that limit emissions of regulated pollutants from newly built facilities and some existing facilities that undergo modification.

Regulations that phased-out of stratospheric ozone depleting chemicals: CFC, halons, carbon tetrachloride, methyl chloroform and hydrofluorocarbons.

Reduction in hazardous pollutant emissions. Sources that are identified as subject to Maximum Achievable Control Technology (MACT) [major new and existing sources] will be expected to reduce hazardous pollutant emissions by 90% or more.

Urban smog decreases by reducing emissions from small businesses as well as large factories and vehicles.

## NONATTAINMENT AREAS

Under the NAAQS program, geographic areas that violate the standard for one or more criteria pollutants are called nonattainment areas. In nonattainment areas, new facilities and major modifications to existing facilities must meet the *Lowest Achievable Emission Rate (LAER)*. The

*LAER* is defined as the most stringent emissions limitation achieved in practice or required by regulation for that type of facility.

Also, to avoid increasing the total amount of a criteria pollutant in a nonattainment area, a new or expanding business must offset whatever emissions it intends to emit. Offsetting is defined as reducing the actual emissions of a regulated air pollutant from a source operation in an amount greater than the proposed new construction will emit. For VOCs and NO<sub>x</sub>, the offsetting ratio must be greater than 1:1, depending on the severity classification of the nonattainment area.

In Missouri there are two areas designated as nonattainment. A moderate nonattainment area for ozone consists of Franklin, Jefferson, St. Charles and St. Louis Counties, and the City of St. Louis. The nonattainment area for lead includes the city of Herculaneum in Jefferson County.

## **PERMITS**

Construction Permits are issued by the Division of Environmental Quality's Air Pollution Control Program (APCP). All new installations built after May 13, 1982 with the potential to emit (PTE) a regulated air pollutant in an amount equal to or greater than the *de minimis* (threshold) level are required to obtain a construction permit. Construction permits are required prior to starting construction. Construction permits are also required for existing facilities when the construction, modification or addition has the potential to emit a regulated air contaminant at the *de minimis* level or above. All asphaltic concrete plants and incinerators must have a permit, regardless of emission levels. The regulated air pollutants and the *de minimis* emissions levels are listed in Table I of this document.

The potential to emit (PTE) is the amount of pollutants that would be emitted if all the equipment operated at the maximum design rate for 24 hours a day, 365 days a year. In the construction permit application, the facility may request an emissions limit such as a limit in the number of operating hours for the equipment. This limit, if accepted by the APCP would become part of the constraints in the construction permit. The limit could change the operating permit status of the facility. Operating permits are discussed in the next section.

A construction permit may not be required for a modification if an existing facility already has a construction permit and the modification will have a PTE of less than 0.5 pounds per hour of any regulated air pollutant. Other factors considered when determining if this exemption is valid include the distance from the modification to the property line and the specific hazardous air pollutants that may be emitted.

After determining a permit is required, an Application for Authority to Construct is filed with the APCP, in duplicate, with a filing fee of \$100. In addition, the applicant is charged \$50 per hour for engineering review time. Upon permit issuance, sources must begin the construction/modification project within two years. When an addition or modification is planned for a "grandfathered" facility, or a permit is requested for the modification of a facility with an existing permit, the application forms are completed only for the added or modified equipment or process. The APCP review of the permit applications may take 90 or 180 days to complete depending on the type of construction permit requested.

A **Major Source Permit** is required for any facility, process or operation to be constructed or modified which has the potential to emit more than the major emission level of a regulated air contaminant. Major emission levels vary between 100 and 250 tons per year depending on local compliance with ambient air quality standards and whether the facility is a Named Installation.

Named Installations refers to a list of source categories that can be found at the end of the definitions rule, 10 CSR 10-6.020(2)(B) and Table II of this document. This list is used in the construction and operating permit rules to identify types of sources of air pollution that must include fugitive emissions when calculating whether or not they are subject to the rule or section. For example, fugitive emissions must be included in the calculation of a Portland Cement Plant when deciding whether the potential to emit exceeds the 100 tons per year threshold (section (8) of the construction permit rule, PSD). However, stone quarry plants (not on the list) do not have to include fugitive emissions when comparing the PTE to 250 tons per year.

In nonattainment areas, major sources are subject to **Nonattainment Area Permit** regulations. These requirements are found in 10 CSR 10-6.060 (7). If the potential to emit the nonattainment pollutant is greater than *de minimis* or the PTE of any other pollutant is greater than 100 tons per year then additional conditions apply.

In attainment areas, major sources are subject to additional regulations, known as **Prevention of Significant Deterioration (PSD)**. Under federal law, if the PTE of any pollutant is greater than 250 tons per year unless the facility is a Named Installation. A Named Installation is subject to PSD when the potential to emit of any pollutant is greater than 100 tons per year. Major modifications at these installations are also subject to PSD regulations. These requirements are found in 10 CSR 10-6.060 (8).

A **Minor Source Permit** is required for a facility, process or operation to be constructed or modified where the construction or modification has the potential to emit more than the *de minimis* level of a regulated air contaminant but less than the major level.

A **De Minimis Permit** is issued when a facility with the potential to emit more than the *de minimis* level of a regulated air contaminant agrees with the APCP to keep the actual emissions less than *de minimis* level. A *de minimis* permit is also issued when an addition or modification is made to an existing facility (grandfathered or previously permitted), if the addition by itself has the potential to emit below the *de minimis* level of pollutants and the facility as a whole remains below the major emissions levels.

**Temporary Installations and Pilot Plants** with a potential to emit less than 100 tons per year may receive a permit upon written request to the APCP before construction begins. Permits are issued only when the attainment or maintenance of ambient air quality standards is not threatened.

**Portable equipment** having the potential to emit any regulated air pollutant greater than *de minimis* levels must obtain a construction permit. The equipment will be permitted for all sites included in the application, but the applicant must indicate the first site. Portable equipment may operate at the first site for no more than 24 months.

When the owner or operator wants to move the equipment, a Portable Source Relocation Request must be submitted to the APCP. For pre-approved sites (site previously reviewed) the agency reviews these requests within 7 days, for new sites these reviews take 21 days. Once a portable plant is relocated, the operations at the new site are limited to 24 months. If an owner desires to stay at a relocation site longer than the 24 months, they must submit a regular construction permit application for approval, which is subject to a 90 day review.

Operating Permits are issued by the APCP in accordance with Title V of the 1990 Clean Air Act Amendments. The federal regulation enabling Title V is found in 40 CFR 70 and thus operating permits are sometimes called Part 70 permits. All sources with the potential to emit any regulated air pollutant above *de minimis* levels, including “grandfathered” sources not required to have a construction permit, must obtain an operating permit. The intent of the program is to insure that sources comply with all applicable state and federal regulations. There are three classes of operating permits:

**Part 70 (Major)**  
**Intermediate**  
**Basic State (Minor)**

A **Part 70 operating permit** is required of sources with actual or potential emissions equal to or more than 100 tons per year of any criteria pollutant, 10 tons per year of any single hazardous air pollutant (HAP) or 25 tons per year of combined HAPs, or if the EPA Administrator requires a Part 70 permit as a part of a federal rule making. These emissions levels are calculated after control devices and are called the major source threshold.

An **Intermediate operating permit** may be obtained by facilities whose PTE is above the major source threshold, but have actual emissions below the threshold and do not want to obtain a Part 70 permit. Applicants for these permits propose voluntary conditions to limit their potential emissions to less than the major source level. Some states call this class a “synthetic minor” permit or a federally enforceable state operating permit (FESOP). Conditions could include absolute emissions limits, recordkeeping of operating hours limits, or production limits. Before applying for intermediate status, businesses should carefully consider whether voluntary conditions to limit emissions will be an undue handicap on operations.

A **Basic State operating permit** is required if PTE is between *de minimis* and major levels or the need for a Part 70 permit has been deferred by the EPA administrator. Some businesses such as dry cleaners, fall under the **National Emissions Standards for Hazardous Air Pollutants (NESHAP)** and may be required to obtain a State Basic operating permit even though their emissions of hazardous air pollutant(s) may be below *de minimis*. If a business uses solvents, the owner or representative should contact the Technical Assistance Program to determine if the business is affected by a NESHAP. All asphaltic concrete plants and incinerators must be permitted, regardless of size.

The completed application is submitted with a \$100 fee to the Air Pollution Control Program or if the business is located in one of the local jurisdictions such as Kansas City or St. Louis, to that local agency. No review time is charged. Part 70 applications are overviewed by the EPA regional office and require public notice. A public hearing may be requested for cause by any

interested party. A hearing does not have to be held, if in the judgement of the APCP it is not required. Intermediate applications require public notice, and interested parties may comment or request a hearing.

A new business requiring a permit before starting construction has two alternatives. It may file an application for authority to construct and an application for authority to operate at the same time (with separate \$100 fees for each application) and it will receive a unified review. The applications are reviewed concurrently and both permits will be granted at the same time. The alternative is to request separate reviews. This must be stated in the construction permit application. If separate reviews are preferred, the facility must first obtain a construction permit, construct, and start operations. An application for an operating permit must be filed within one year of commencing operation.

The construction permit and operating permit application forms and instructions are complex. The MoDNR Technical Assistance program (TAP) offers assistance completing the forms.

## **ASBESTOS REMOVAL NOTIFICATIONS**

The APCP regulates asbestos abatement projects under the federal regulations found in 40 CFR 61 **Subpart M, the National Emission Standards for Asbestos**. An asbestos abatement project is an activity undertaken to encapsulate, enclose or remove 160 square feet or 260 linear feet or more of friable asbestos-containing material from buildings and other air contaminant sources, or to demolish buildings and other air contaminant sources containing 160 square feet or 260 linear feet or more of asbestos.

Friable asbestos containing material is any material that contains more than 1% asbestos, by weight, which is applied to ceilings, walls, structural members, piping, ductwork or any other part of a building or facility and when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable asbestos containing material may be rendered friable by certain activities and thus regulated. Please contact the APCP regarding any questions concerning the applicability of the regulation.

Any regulated asbestos project must be performed by a contractor registered with the APCP. Under strict conditions, certain types of businesses may obtain an exemption from portions of the asbestos rule to perform asbestos mitigation work in their own place of business. Please contact the Air Pollution Control Program regarding any questions concerning asbestos.

## **RISK MANAGEMENT PROGRAM**

Under **112(r) of the Federal Clean Air Act Amendments of 1990: Prevention of Accidental Releases**, if you handle, manufacture, use, or store any of the 140 specified toxic and flammable substances above the threshold quantities in a process, you are required to develop and implement a risk management program. Covered facilities are required to submit a plan describing their efforts to prevent and minimize the consequences of accidental chemical releases. The accidental release regulation, found in Code of Federal Regulations 40 CFR 68, requires that covered facilities identify, assess, document, and minimize their chemical hazards by developing a risk management program and submitting a risk management plan (RMP) to the EPA.

The phrase “risk management program” refers to all of the requirements of Part 68, which must be implemented on an on-going basis. The phrase “risk management plan” refers to the document summarizing the risk management program that you must submit to EPA.

## **PURPOSE**

The goal of the Risk Management Program is to prevent accidental releases of substances that can cause serious harm to the public and the environment. Your Risk Management Plan will help the Local Emergency Planning Committee (LEPC) prepare for and respond to chemical accidents. It will also be useful to the public in understanding the chemical hazards in their community.

## **REQUIREMENTS**

In general, 40 CFR 68 requires that:

- Covered facilities must develop and implement a risk management program and maintain documentation of the program at the site. The risk management program will include an analysis of the potential offsite consequences of an accidental release, a five-year accident history, a release prevention program, and an emergency response program.
- Covered facilities must develop and submit an RMP to EPA no later than the date on which the facility first has more than a threshold quantity. The RMP provides a summary of the risk management program. The RMP will be available for federal, state and local government agencies and the public via the Internet.
- Covered facilities also must continue to implement the risk management program and update their RMPs every five years or when covered processes change, when new covered processes are added, or within six months of when the offsite consequence analysis distances change by a factor of 2. For example, if the distance doubles or is cut in half.

## **AM I COVERED?**

The type and quantity of chemicals used will determine if your facility is affected. Some of the chemicals covered by this regulation include ammonia and chlorine. Your business will likely be required to comply with the Risk Management Program if you use any of the 140 regulated substances in quantities that exceed certain thresholds. Even if you are a small business, you may be using common hazardous chemicals in quantities great enough to cause harm to the surrounding community if there were an accident. These regulations also apply to government facilities.

Some included chemicals and threshold quantities:

- Ammonia (anhydrous)-covered if you exceed 10,000 lbs.
- Chlorine-covered if you exceed 2500 lbs.

If you discover that you are subject to the Risk Management Program, you will then determine which "program level" you fit. EPA established three levels of requirements to reduce the regulatory burden for facilities with a low risk of offsite impacts in the event of a chemical accident. Program Level 1 has the fewest requirements, while Program Levels 2 and 3 require more work because their processes present a greater risk to the surrounding communities. For guidance when determining whether the chemicals you use are covered substances above the threshold quantities and to determine which level applies to you, contact the Technical Assistance Program.

The availability of your risk management plan via the Internet is intended to stimulate communication between industry and the public to improve accident prevention and emergency response practices at the local level. This way, the people who live near your business, and the police and firefighters who protect them, will learn more about the hazards of the chemicals that you use and the steps that you are taking to prevent accidents.

MoDNR is committed to implement the Risk Management Program in Missouri with a focus on compliance assistance. EPA will provide for enforcement activities in Missouri. The regulation requires that all plans be submitted electronically to EPA via computer diskette. Small businesses that are unable to comply with required electronic submission may be eligible for an electronic waiver whereby they can submit their RMP on paper.

### **Chemical Safety, Site Security, and Fuels Regulatory Relief Act**

On August 5, 1999, President Clinton signed the Chemical Safety Information, Site Security and Fuels Regulatory Relief Act (Public Law 106-40). The new law primarily concerns the public availability of the Off-site Consequence Analysis (OCA) sections of risk management plans. The new law prohibits government officials from disclosing to the public the OCA sections of RMPs and other related materials until at least August 5, 2000. However, the law does not prohibit facilities from sharing with the public the OCA sections of their RMPs, and it requires most facilities to provide the public with at least a summary of their OCA information by February 1, 2000.

If your facility was required to submit an RMP for a Program 2 or Program 3 process, you should have announced and held a public meeting by February 1, 2000, to discuss your RMP, including the OCA sections. If you meet the applicable definition of "small business stationary source," you may opt to publicly post a summary of your OCA information.

In either case, you must certify to the Federal Bureau of Investigation (FBI) by June 5, 2000 that you have held the meeting or posted the summary. Facilities having only Program 1 processes are exempt from the public meeting/summary requirement. The certificate may be mailed to the following address:

Director, FBI  
Attention: RMP Program - Room 1B327  
935 Pennsylvania Ave. N.W.  
Washington, D.C. 20535-0001

The FBI will document receipt of the certifications and provide documentation to the EPA. No other communication should be included with certifications to the FBI.

The owner or operator of a facility may choose to share with the public the OCA sections of the facility's RMP. PL 106-40 provides that the OCA sections of any RMP made available to the public without restriction by the facility owner or operator is not subject to the restrictions of the law. Once a facility has released that portion of its RMP to the public, government officials may do so, as well. If your facility makes the OCA portion of your RMP available to the public without restriction, PL 106-40 requires you to notify EPA that you have done so. EPA must keep a public list of facilities that have released the OCA portion of their RMPs without restriction.

EPA has the authority to enforce the meeting, certification, and notification provisions of the law. Failing or refusing to comply with the above provisions may result in EPA initiating a judicial action in federal district Court to enforce the obligations under the new law.

This law created a new exemption for flammable fuels used as fuel or held for sale as fuel at a retail facility. A retail facility is defined as a facility "at which more than one-half of the income is obtained from direct sales to end users or at which more than one-half of the fuel sold by volume, is sold through a cylinder exchange program."

This exemption was added to the existing exemption for anhydrous ammonia when used as an agricultural nutrient by the end user.

**For more information:** Contact EPA's hotline at (800) 424-9346 (during regular business hours) or the Chemical Emergency Preparedness and Prevention Office website <http://www.epa.gov/ceppo>.

**TABLE I**  
**De minimis Emission Levels**

**Table 1 of 10 CSR 10-6.020(3)(A)**

<b>AIR CONTAMINANT</b>	<b>EMISSION RATE (tons per year)</b>
Carbon monoxide	100.0
Nitrogen dioxide	40.0
Particulate Matter (PM)	25.0
Particulate Matter – 10 micron (PM <sub>10</sub> )	15.0
Sulfur dioxide	40.0
Ozone (to be measured as VOC)	40.0
Lead	0.6
Mercury	0.1
Beryllium	0.0004
Asbestos	0.007
Fluorides	3.0
Sulfur acid mist	7.0
Vinyl chloride	1.0
Hydrogen sulfide	10.0
Total reduced sulfur (including hydrogen sulfide)	10.0
Reduced Sulfur Compounds (including hydrogen sulfide)	10.0
Municipal waste combustor organics -- (measured as total tetra- through octa-chlorinated dibenzoturans and Dibenzofurans)	$3.5 \times 10^{-6}$
Municipal Waste Combustor Metals -- (measured as Particulate Matter)	15.0
Municipal Waste Combustor Acid Gases-- (measured as sulfur dioxide and hydrogen chloride)	40.0
Municipal solid waste landfill emissions (measured as nonmethane organic compounds)	50.0
Hazardous Air Pollutant (each)	10.0
Sum of Hazardous Air Pollutants	25.0

## TABLE II

### List of Named Installations

1. Coal cleaning plants (with thermal dryers)
2. Kraft pulp mills
3. Portland cement plants
4. Primary zinc smelters
5. Iron and steel mills
6. Primary aluminum ore reduction plants
7. Primary copper smelters
8. Municipal incinerators capable of charging more than 250 tons of refuse per day
9. Hydrofluoric, sulfuric or nitric acid plants
10. Petroleum refineries
11. Lime plants
12. Phosphate rock processing plants
13. Coke oven batteries
14. Sulfur recovery plants
15. Carbon black plants (furnace process)
16. Primary lead smelters
17. Fuel conversion plants
18. Sintering plants
19. Secondary metal production plants
20. Chemical process plants
21. Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input
22. Petroleum storage and transfer facilities with a capacity exceeding three hundred thousand (300,000) barrels
23. Taconite ore processing facilities
24. Glass fiber processing plants
25. Charcoal production facilities
26. Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat
27. All other stationary source categories regulated by a standard promulgated under Section 111, Standards of Performance for New Stationary Sources or Section 112, Maximum Achievable Control Technology (MACT) of the Clean Air Act Amendments.

# HAZARDOUS WASTE MANAGEMENT

**The Resource Conservation and Recovery Act (RCRA)**, which amended the **Solid Waste Disposal Act**, was the first substantial effort by Congress to establish a regulatory structure for the management of solid and hazardous wastes. Subtitle C of RCRA addresses “cradle-to-grave” requirements for hazardous waste from the point of generation to disposal. Subtitle D of RCRA contains less restrictive requirements for nonhazardous solid waste. The **Hazardous and Solid Waste Amendments (HSWA)** of 1984 established additional waste management requirements and added Subtitle I, which imposes management requirements for underground storage tanks (USTs) that contain petroleum or hazardous substances.

Regulations implementing Subtitle C of RCRA for hazardous waste management are found in 40 CFR 260-279. Although RCRA is a federal statute, many states implement the RCRA program. In addition, many states have state-level hazardous waste requirements that go above and beyond the federal RCRA requirements. Sites that have been contaminated with hazardous waste may be also subject to requirements under the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**, commonly known as Superfund.

The Hazardous Waste Program (HWP) is responsible for monitoring and controlling the generation and disposal of hazardous wastes in Missouri. They administer programs created by the federal laws **RCRA Subtitle C**, the **CERCLA**, federal regulations 40 CFR 260-272, the Universal Waste Rule found in 40 CFR 273, and the used oil regulations found in 40 CFR 279.

The primary state enabling statutes are the Hazardous Waste Management Law, Chapter 260 (RSMo.) and the Underground Storage Tank Law, Chapter 319 (RSMo). The portion of the Code of State Regulations (CSR) that governs and outlines the Program’s responsibilities is recorded in 10 CSR 25 for hazardous waste and 10 CSR 20 for underground storage tanks.

For a hazardous material to be regulated as a hazardous waste, it must first fall under the regulatory definition of solid waste.

## DEFINITION

A solid waste is defined as a solid, liquid or gaseous material that is no longer used and will be discarded. A waste is hazardous if it is on a list of specified wastes determined to be hazardous or exhibits one or more of the following hazardous characteristics:

1. Ignitability
2. Corrosivity
3. Reactivity
4. Toxicity

Hazardous wastes are classified as either acute or non-acute, which is the degree to which it is hazardous. Listed hazardous wastes can be found in the Code of Federal Regulations (CFR) Title 40, Part 261. Examples of chemicals or materials that may exhibit hazardous characteristics are petroleum products, dyes, paints, printing inks, thinners, solvents, cleaning fluids, pesticides

or related chemicals, acids, caustics, materials that ignite easily, react when exposed to air or water, or are potentially explosive.

## **PERMITS**

Hazardous waste permits are required for Hazardous Waste Treatment, Storage or Disposal (TSD) and Polychlorinated Biphenyl (PCB) facilities. These facilities are especially designed to handle, treat or otherwise dispose of hazardous wastes or PCBs.

## **RESOURCE RECOVERY CERTIFICATION**

Certification is required for hazardous waste resource recovery facilities. These facilities recycle or recover valuable resource materials from hazardous wastes.

## **HAZARDOUS WASTE TRANSPORTER**

Transporters of hazardous waste must obtain a Hazardous Waste Transporter License.

## **HAZARDOUS WASTE GENERATOR REGISTRATION**

Based on the amount of hazardous waste produced, generators are required to register with the HWP. Generators fall into three categories, depending on the amount of hazardous waste generated or stored:

- Large Quantity Generator (LQG)
- Small Quantity Generator (SQG)
- Conditionally Exempt Small Quantity Generator (CESQG)

Categories are defined by the **amount generated in one month or accumulated at any one time**. The general guidelines are as follows:

### **Large Quantity Generator**

**OR**

- generates more than 1 kg (2.2 lbs.) of acutely hazardous waste
- generates more than 1000 kg (2200 lbs.) of non-acute hazardous waste

### **Small Quantity Generator**

**AND**

- generates less than 1 kg (2.2 lbs.) of acutely hazardous waste
- more than 100 kg (220 lbs.) but less than 1000 kg (2200 lbs.) of non-acute hazardous waste

### **Conditionally Exempt Small Quantity Generator**

**AND**

- generates 100 kg (220 lbs.) or less of non-acute hazardous waste
- less than 1 kg (2.2 lbs.) of an acutely hazardous waste

Some businesses likely to generate hazardous waste are automobile repair shops, electroplaters, metal fabrication facilities, printers, dry cleaners or laundry facilities, photographic processors,

chemical or paint manufacturers, textile manufacturers, wood furniture manufacturers and refinishers, or paper product manufacturers. Contact the Technical Assistance Program for additional information on hazardous waste generation.

## **UNIVERSAL WASTE**

Certain widely generated hazardous wastes that can be safely transported and recycled easily may be considered universal wastes. Handlers of universal wastes have less strict rules to follow. The portion of the Code of State Regulations that defines universal waste regulations is recorded in 10 CSR 25-16.273.

### **DEFINITION**

Universal waste must first be classified as hazardous waste. If the waste does not contain enough of the hazardous component to classify it as hazardous waste, it is not considered universal waste. The following hazardous waste can be handled as universal waste:

- Batteries
- Pesticides
- Mercury thermostats, mercury switches, mercury containing thermometers, and mercury containing lamps

### **Universal Waste Handlers**

Most businesses generate universal waste. The regulations that must be followed by universal waste handlers are determined by the amount of universal waste handled. Handlers fall into two categories:

- Large Quantity Handler (LQH)
- Small Quantity Handler (SQH)

The general guidelines are as follows:

#### **Large Quantity Handler**

- Accumulates a total of 5,000 kilograms (approximately 11,000 lbs.) or more of universal waste.

#### **Small Quantity Handler**

- Accumulates less than a total of 5,000 kilograms (approximately 11,000 lbs.) of universal waste.

Universal waste should not be stored for more than a year. For additional information, contact the Technical Assistance Program.

## **UNDERGROUND STORAGE TANKS**

Underground Storage Tanks (USTs) are regulated under Subtitle I of the 1984 Amendment to RCRA. EPA regulations for this program are found in 40 CFR 280. An underground storage tank (UST), is defined as any tank and piping system that is 10% or more covered with soil and

contains petroleum or a hazardous product. These hazardous products are listed in the **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**. USTs must be registered with the Missouri Department of Natural Resources, Hazardous Waste Program, Tanks Section. Systems out of service before 1974 are exempt from the registration requirement. Any tank smaller than 110 gallons, farm or residential tanks smaller than 1100 gallons and any heating oil tanks for on-site use are excluded from the definition of UST.

The owner of the tank is responsible for registration. Both the owner and operator are responsible for all other aspects of the UST rules. MoDNR requires a 30 day advance notice of installation. New USTs must be registered within 30 days of bringing into use. The owners/operators are responsible for keeping records of corrosion protection, repairs, monthly leak detection, site assessments, and financial responsibility.

Because of the potential for a spill or release from their tanks, owners must demonstrate financial responsibility coverage. They must have the financial capability to provide soil and ground water cleanup, third-party property cleanup, and third-party bodily injury. Participation in the Missouri Petroleum Storage Tank Insurance Fund (PSTIF) is one way of meeting this requirement.

The owner/operator must report all releases, including suspected releases, spills, overfills, and confirmed releases within 24 hours. Release must be reported to the department's Environmental Services Program. Petroleum spills of less than 25 gallons do not have to be reported if cleaned up immediately.

New UST systems (new tanks and piping) must meet the technical requirements for corrosion protection, spill and overfill prevention, leak detection, and certification of proper installation. All existing UST systems should have been upgraded by December 22, 1998. Upgrades consist of lining and/or cathodically protecting the tank, adding spill and overfill preventers to the tank, and cathodically protecting the piping.

## **ABOVEGROUND STORAGE TANKS**

Non-transportation facilities with aboveground storage tanks (AST) containing petroleum may be subject to the federal **Oil Pollution Act** of 1990. This is covered in the federal regulation 40 CFR 112. A non-transportation related facility is defined as all fixed facilities including support equipment except interstate pipelines, railroad tank cars in route, transport trucks in route, and bulk oil terminals.

According to the federal definition, an aboveground storage tank (AST) includes any tank and connecting pipes that are 90% or more above the surface of the ground and contains a petroleum product designated for sale. Petroleum is defined as gasoline, kerosene, diesel, lubricants, and fuel oil. Petroleum tanks with a capacity in greater than 660 gallons or a facility whose total storage capacity is greater than 1320 gallons are subject to 40 CFR 112.

Part 112 requires the preparation and implementation of a Spill Prevention Control and Countermeasure (SPCC) Plan. The plan must be certified by a registered professional engineer (P.E.) to verify good engineering practices are followed when preparing the plan. Tanks must be

located in containment structures capable of holding 110% of the volume of the single largest tank in the structure.

A complete copy of the SPCC plan must be maintained at the facility. Facilities existing since January 11, 1975 must have a SPCC plan. New facilities have six months to prepare a SPCC plan. The plan must be implemented within twelve months from the date the facility begins operating. Contact the Technical Assistance Program for additional information regarding underground or aboveground storage tanks.

# LAND RECLAMATION

The Land Reclamation Program (LRP) is responsible for regulating and controlling surface and coal strip mining operations as necessary to minimize their injurious effects on the people and resources of the state. They administer programs created by the federal **Surface Mining Control and Reclamation Act** of 1977. The primary state enabling statutes are the Strip Mine Law, the Land Reclamation Act, the Surface Coal Mining Law, and the Metallic Minerals Waste Management Law all contained in Chapter 444 (RSMo). The portion of the Code of State Regulations (CSR) that governs and outlines the Program's responsibilities is recorded in 10 CSR 40. The LRP also regulates the disposal of metallic mineral waste, which is recorded in 10 CSR 45.

## PERMITS

### Industrial Surface Mining Permit

An Industrial Surface Mining Permit is required for the surface mining and surface disturbance associated with the underground mining of gravel, limestone, granite, traprock, tar sands, clay, barite, sandstone, oil shale, sand, shale, and all others as defined in Chapter 444.765 (RSMo). An application fee and reclamation bond must be posted. These operations typically require other permits from the Missouri Department of Natural Resources, including the Air Pollution Control Program and the Water Pollution Control Program. Should the mining occur in a stream, a permit may also be required by the nearest United States Army Corps of Engineers District Office. Mine Safety and Health Administration permits are also usually required.

### Coal Exploration Permit

A Coal Exploration Permit is required for exploratory drilling and test-pit excavation. Separate permit requirements apply for drilling operations and exploration work that remove more than 250 tons of coal, cause substantial disturbance to the natural land surface, or take place on land designated unsuitable for surface mining. An application fee and a reclamation bond of \$5000 must be posted for drilling operations. Full-cost bonding is needed for other exploration activities. Air pollution, water pollution, or Mine Safety and Health Administration permits may be required.

### Surface Coal Mine and Reclamation Permit

A Surface Coal Mine and Reclamation Permit is required for any surface coal mine operation as well as the surface-disturbance associated with underground coal mines. An application fee, reclamation bond, and an annual permit fee are required. Air pollution, water pollution, and Mine Safety and Health Administration permits are required.

### Metallic Mineral Waste Management Permit

A Metallic Mineral Waste Management Permit is required for the disposal of waste from metallic minerals mining, beneficiation, and processing. A permit fee and financial assurance are required. Coordination with the Air Pollution Control Program, Water Pollution Control Program, MoDNR Division of Geology and Land Survey's Dam Safety Program, Solid Waste Management Program, and Hazardous Waste Management Program regulations is recommended. For additional information, contact the Technical Assistance Program (TAP) or the Land Reclamation Program (LRP).

# PESTICIDES

The federal government first regulated pesticides when Congress passed the **Insecticide Act** of 1910. Congress broadened the federal government's control of pesticides by passing the original **Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)** of 1947 under control of the U.S. Department of Agriculture. In 1970, Congress transferred the administration of FIFRA to the newly created Environmental Protection Agency (EPA). This initiated a shift in the focus of federal policy from the control of pesticides for reasonably safe use in agricultural production to the control of pesticides for reduction of unreasonable risks to humans and the environment.

This policy focus was expanded by the passage of the **Federal Environmental Pesticide Control Act (FEPCA)** of 1972, which amended FIFRA by specifying methods and standards of control in detail. Under FIFRA, no one may sell, distribute, or use a pesticide unless it is registered by the EPA. Registration includes approval by the EPA of the pesticide's label, which must give detailed instructions of its safe use. In recent times, there has been a shift toward greater emphasis on minimizing risks associated with toxicity and environmental degradation, and away from pesticide potency issues.

In Missouri, the Pesticide Program is administered by the Missouri Department of Agriculture, Bureau of Pesticide Control in the Plant Industries Division. The Bureau administers the Missouri Pesticide Use Act (281.005 - 281.180 RSMo.) and the Missouri Pesticide Registration Act (281.210 - 281.310 RSMo.). The portion of the Code of State Regulations (CSR) that governs and outlines the Bureau's responsibilities is recorded in Title 2 CSR 70-25.

The Missouri Department of Agriculture (MDA) requires an individual planning to apply any pesticides, whether general use or restricted use, for industrial or commercial purposes, to obtain certification prior to applying the pesticides. The Use Act establishes requirements for Certified Commercial Applicator Licenses, Certified Noncommercial Applicator Licenses, Certified Public Operator Licenses, Certified Private Applicator Licenses, Pesticide Technician Licenses, and Pesticide Dealer Licenses. The Use Act also provides the guidelines for approving Pesticide Applicator Training programs. The University of Missouri conducts these training programs annually. Other programs may also be available. The Use Act also provides the authority for enforcement and inspections under the pesticide program.

## **CERTIFIED COMMERCIAL/NONCOMMERCIAL APPLICATOR and CERTIFIED PUBLIC OPERATOR LICENSES**

Certified Commercial Applicators are defined by the Missouri Pesticide Use Act as: Any individual, whether or not he is a private applicator, who is certified by the director as authorized to use, supervise the use of, or determine the need for the use of, any pesticide, which is classified for restricted use or for general use, while engaged in the business of using pesticides on the lands of another as a direct service to the public in exchange for a fee or compensation.

Certified Noncommercial Applicators are defined by the Missouri Pesticide Use Act as: Any individual, whether or not he is a private applicator with respect to some uses, who is certified by

the director as authorized to use, or to supervise the use of, any pesticide which is classified for restricted use only on lands owned or rented by the applicator or their employer.

Certified Public Operators are defined by the Missouri Pesticide Use Act as: Any individual who is certified by the director as authorized to use, or to supervise the use of, any pesticide which is classified for restricted use in the performance of their duties as an official or employee of any agency of the state of Missouri or any political subdivision thereof, or any other governmental agency.

To become certified as one of the above applicators or operators, the applicant is required to pass the state pesticide certification examinations. The applicant is required to pass the General Standards of Competence (CORE) examination and at least one of the category examinations. The applicant chooses the category exam(s) based on their area of expertise.

Applicants must submit a completed Certified Applicator and Pesticide Dealer Application to the Bureau of Pesticide Control to make a reservation to take the certification examinations. Study manuals may be purchased from the University of Missouri Extension Publications office by mailing in a completed manual order form or by calling (800) 292-0969. After passing the required exams and depending on the type of license for which the applicant is applying, there are additional requirements the applicant will have to meet.

License expiration and renewal:

- Certified Commercial Applicator licenses expire annually. The license may be renewed by submitting the \$50.00 license fee and the signed renewal card prior to expiration.
- Certified Noncommercial Applicator licenses expire annually. The license may be renewed by submitting the \$25.00 license fee and the signed renewal card prior to expiration.
- Certified Public Operator licenses expire every three (3) years and may be renewed by submitting the signed renewal card (no license fee is charged).
- All Certified Applicators and Operators are required by state law to renew their certification every three (3) years. This may be accomplished by attending an approved recertification program or by re-examination.

## **CERTIFIED PRIVATE APPLICATOR LICENSE**

Certified Private Applicators are defined by the Missouri Pesticide Use Act as: Any individual who is certified by the director as authorized to use, or to supervise the use of, any pesticide which is classified as restricted use for purposes of producing any agricultural commodity on property owned or rented by the applicator or their employer or on the property of another person, if used without compensation other than trading of personal services between producers of agricultural commodities, on the property of another person.

To obtain a Certified Private Applicator license, the applicant must complete the Certified Private Applicator Training program provided by the University of Missouri Cooperative

Extension Service. Training programs are offered throughout the year in local University County Extension Offices. For training dates and times, contact your local University County Extension Office.

Once the training has been completed, the applicant will complete a Private Applicator Certification Training Verification Form. The form will be signed by the instructor and mailed to MDA office (no fee is charge). Upon receipt of the verification form, a Certified Private Applicator License will be issued to the applicant.

Certified Private Applicator licenses expire five years from the issue date. To renew the license and certification, the Certified Private Applicator must complete the recertification training provided at the local University County Extension Office.

## **PESTICIDE TECHNICIAN LICENSE**

Individuals who use or determine the need for the use of pesticides, under the direct supervision of a certified commercial applicator, in Ornamental and Turf Pest Control, General Structural Pest Control or Termite Pest Control must be licensed as a pesticide technician. There are additional requirements for non-Missouri residents.

## **PESTICIDE DEALER LICENSE**

The Missouri Pesticide Use Act defines Pesticide Dealer as any individual who is engaged in the business of distributing, selling, offering for sale, or holding for sale at retail, or direct wholesale to the end user, any pesticide classified for restricted use. To obtain a Pesticide dealer license, the applicant must:

- Submit a completed Certified Applicator and Pesticide Dealer Application
- Pass the Pesticide Dealer Examination
- Pay a \$25.00 license fee

Pesticide dealers are not certified as applicators. Pesticide dealers are required by state law to keep and maintain records of sales of restricted use pesticides. The information that must be recorded can be found in Title 2 CSR 70-25.180 of the regulations for the Missouri Pesticide Use Act.

## **PESTICIDE APPLICATOR TRAINING PROGRAMS**

The Missouri Pesticide Use Act authorizes the MDA to establish minimum criteria for recertifying Missouri Certified Commercial and Noncommercial Pesticide Applicators and Public Operators. Each recertification training course must be approved in advance by the Bureau of Pesticide Control. No course will be given post approval. Individuals attending courses prior to approval will not be recertified.

The Bureau cannot approve a course for a period of time when staff are not available to monitor the program. Please submit programs as early as possible. Programs will be reviewed in the order received. For a course to be considered for recertification credit in Missouri, the program must comply with the following:

- The course must be open to the public without discrimination
- A final, written course agenda must be received by the Bureau of Pesticide Control at least 45 days (90 preferred) in advance of the proposed program

## **RECERTIFICATION/RECIPROCITY**

The University of Missouri Cooperative Extension Service provides recertification training annually during January. Other groups, businesses, and associations also sponsor recertification training programs. All recertification training programs must be approved by the Missouri Department of Agriculture, Bureau of Pesticide Control before recertification credit will be awarded to those who attend. Guidelines for pesticide recertification training programs may be obtained by contacting the Bureau of Pesticide Control.

The Missouri Department of Agriculture has entered formal reciprocal agreements with specific states. Reciprocity allows an applicant to apply for a Missouri license based on their certification in another state without having to take and pass the Missouri certification examinations. To apply for a license in Missouri through reciprocity or for additional information regarding pesticide use in Missouri contact the Missouri Department of Agriculture, Bureau of Pesticide Control.

## **ENFORCEMENT & INSPECTIONS**

The Missouri Pesticide Use Act gives the MDA the authority to inspect the application of pesticides and dealers and enforce the Act. MDA field personnel conduct many types of investigations and inspections. These investigations and inspections include, but are not limited to:

- Pesticide Use and Follow-up
- Applicator Establishment
- Marketplace
- Records of Use and Sales
- Direct Supervision of Technicians
- Producer Establishment
- Experimental Use

When an individual suspects that damage has occurred from a pesticide application he or she may contact the Missouri Department of Agriculture in Jefferson City to file a complaint about the possible misuse of a pesticide by any applicator. An investigator for the area in which the application was made is notified to make an investigation of the incident as soon as possible. If you have any questions concerning the use of pesticides or an application in which you suspect damage and wish to file a formal complaint, you may contact the MDA.

## **PESTICIDE REGISTRATION**

The Registration Act provides the authority for Pesticide Registration. Every pesticide that is manufactured, distributed, sold or offered for sale, used or offered for use within the state must be registered with MDA. These registrations are renewable annually.

For further information concerning pesticide use, applicator licensing, registration or training contact:

The Bureau of Pesticide Control  
Plant Industries Division  
Missouri Department of Agriculture  
P.O. Box 630  
Jefferson City, MO 65102  
(573) 751-5504  
(573) 751-0005 fax

For further information about the Pesticide Applicator Training Program at the University of Missouri contact:

Pesticide Program Coordinator  
212A Waters Hall  
University of Missouri - Columbia  
Columbia, MO 65211  
(573) 884-6361

Additional information is also available toll-free from the National Pesticide Telecommunications Network at (800) 858-7378.

## **DISPOSAL**

The Missouri Department of Natural Resources regulates the disposal of pesticides including pesticide containers. In Missouri, pesticides are regulated under the Universal Waste Rule (UWR), found in 10 CSR 25-16.273. This rule incorporates the federal law found in 40 CFR 273. The UWR gives generators of certain types of hazardous waste (including pesticides) a less stringent management option. Please refer to the Universal Waste topic in the Hazardous Waste Section of this document.

# **POLLUTION PREVENTION**

## **WHAT IS POLLUTION PREVENTION?**

Pollution prevention is simply not making the waste (or pollutant) in the first place. It means doing what we can to reduce the amount and toxicity of the pollution generated or energy consumed. Preventing pollution may be something as simple as buying products with little or no packaging or something as complex as redesigning your operation to increase efficiency and reduce waste. Simple things like choosing nonhazardous solvents and cleaners can protect the environment and reduce the number of environmental regulations you are faced with. Pollution prevention means thinking about the environmental impact of your actions and trying to limit that impact.

Pollution Prevention (P2) was established as a national policy through the **Pollution Prevention Act** of 1990. Congress defined pollution prevention as:

Any practice which reduces the amount of a hazardous substance, pollutant or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal.

Congress established a hierarchy of preferred pollution prevention methods. Source reduction is the preferred method with recycling, treatment, and disposal listed in descending order of preference. Disposal should always be the last resort. To achieve maximum benefits, a facility's pollution prevention program should have two distinct parts. The first is the general, overall pollution prevention plan, which encompasses the entire facility, and the initial requirements to get a pollution prevention program started. The second portion deals with the details of doing pollution prevention opportunity assessments on specific activities or processes.

## **WHY PREVENT POLLUTION?**

When we generate waste or pollution, we must safely and legally manage that waste or pollution. Whether it is household trash or waste from a business, managing wastes costs money. Usually the things we discard are items we bought. A good example is paper towels. We buy them, use them once, and then pay again to have them disposed of. If we reduce the amount of waste we generate, we save money. It's as simple as that. Reducing costs is a major reason to prevent pollution. Here are a few others:

- Improved work environment and worker safety
- Reduced liability
- Increased efficiency
- Fewer regulatory requirements
- Better environmental protection
- Enhanced marketing and public relations opportunities

P2 makes sense. P2 techniques not only resolve or reduce environmental quality issues or problems, but also save money. By reducing expenses, pollution prevention improves both the competitiveness and efficiency of business and industry. For more information, contact the

Technical Assistance Program's Pollution Prevention Unit at (800) 361-4827. The P2 Unit maintains a library of pollution prevention information. It also provides information and assistance about managing and reducing hazardous waste. Upon request, the P2 unit provides on-site pollution prevention assistance and detailed assessment of facilities.

# PUBLIC DRINKING WATER

The Public Drinking Water Program (PDWP) is responsible for the monitoring and quality of public drinking water in Missouri. They administer programs created by the federal **Safe Drinking Water Act** and the **Safe Drinking Water Act Amendments**. The primary state enabling legislation is the Public Drinking Water Law, Chapter 640 (RSMo). The portion of the Code of State Regulations (CSR) defining the organization and responsibilities of the Public Drinking Water Program is found in 10 CSR 60.

## DRINKING WATER SYSTEMS

A **Community Water System** is a water system having 15 or more service connections and operates on a year-round basis or serves at least 25 residents on a year-round basis. Businesses possibly included in this category are larger mobile home parks, subdivisions, and condominiums.

A **Non-transient Non-Community Water System** serves at least 25 of the same persons over 6 months of the year but is not a community water system. Businesses possibly included in this category are industries, schools, and local government facilities.

A **Transient Non-Community Water System** has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year but is not a community water system. Possible businesses in this category are restaurants, hotels, motels, resorts, airports, and campgrounds.

A **Private Water System** will have less than 15 service connections or will serve an average of less than 25 individuals daily at least 60 days out of the year. Businesses possibly included in this category are small mobile home parks, small campgrounds, automotive repair shops, and beauty shops. Contact the Missouri Department of Natural Resources Division of Geology of Land Survey (DGLS) for well construction requirements.

Contact the Technical Assistance Program or the nearest Missouri Department of Natural Resources Regional Office to verify the category of the business.

## PERMITS

A Construction Permit is required for all construction whether a new system, expansion, modification or upgrade. Replacement of components of existing facilities does not require a permit if the replacement is primarily maintenance in nature and no significant upgrading is done. There is no fee for this permit. There are annual laboratory services and water customer fees, based on the type of facility and population served.

A Permit to Dispense is required to operate a new, improved or existing public water system. It requires that the water system components provide safe and adequate water supply that is capable of withstanding substantial hazards of weather. There is no fee for this permit, although there are annual laboratory services and water customer fees, based on the type of facility and population served.

# SOLID WASTE MANAGEMENT

The Solid Waste Management Program (SWMP) is responsible for the control and regulation of solid (nonhazardous) waste in Missouri. The waste may be generated from commercial, industrial, municipal or residential sites. The SWMP also regulates infectious waste and the management of waste tires. The program administers programs created by federal law, the **Resource Conservation and Recovery Act (RCRA)** and state law (the Solid Waste Management Law, Chapter 260.200 - 260.345 RSMo). The portion of the Code of State Regulations (CSR) defining the organization and responsibilities of the Solid Waste Management Program is found in 10 CSR 80.

## PERMITS

The SWMP is primarily involved with the permitting and regulating of the design, construction and operation of new sanitary landfills. The SWMP is also responsible for the proper management and closure of existing landfills, waste tire processing facilities, and waste tire storage sites.

Prior to applying for a Solid Waste Disposal Area Permit, an applicant must first obtain approval for the site's geologic and hydrologic conditions from Missouri Department of Natural Resources Division of Geology and Land Survey. Before constructing a solid waste processing facility or a solid waste disposal area, an applicant must first obtain a construction permit from the Missouri Department of Natural Resources Solid Waste Management Program.

In order to obtain a construction permit, plans, specifications and other data necessary to comply with the Solid Waste Management Law must be submitted to the SWMP. Prior to accepting waste at the facility the applicant must apply for and receive an operating permit from the SWMP. The operating permit will be issued after the MoDNR is assured the facility has been constructed in accordance with the approved plans, specifications and construction permit conditions. The types of solid waste facilities permitted are as follows:

### Solid Waste Disposal Area Construction and Operating

A solid waste disposal area (or landfill) is a facility which accepts waste from any commercial, industrial, recreational or governmental operation or more than one residence. There is a multi-step public participation process prescribed by law for these facilities.

### Solid Waste Processing Facility

A solid waste processing facility such as an incinerator, compost plant, or transfer station is a facility that accepts municipal solid waste (MSW) for processing or salvaging. Prior to completion of the construction permitting process, a public notice is required and a public hearing will be held upon request.

### Infectious Waste Processing Facility Construction and Operating

An infectious waste processing facility accepts infectious waste transferred from an off-site generator for processing or treatment. A hospital that processes or treats its own waste on-site is exempt. Both a construction permit and an operating permit are required. Prior to

completion of the construction permitting process, a public notice is required and a public hearing will be held upon request.

#### Waste Tire Collection Center

A collection center is a site where waste tires are collected prior to recycling or processing and fewer than 500 tires are stored on any given day. This includes whole, baled, shredded, cut or chipped tires. A facility that stores less than 25 tires at any time is exempt.

#### Waste Tire Hauler

A hauler that transports 25 or more waste tires must obtain a license. Hauling waste tires generated at a business or residence does not need a permit if the tires are transported by the employees and/or using vehicles of the business. The SWMP does not require a public notice or hearing.

#### Waste Tire Processing Facility

Any facility where tires are reduced in volume by bailing, shredding, cutting, chipping or otherwise altered is required to have this permit. Processing must be done to facilitate recycling, resource recovery or disposal. A public notice or hearing is not currently required for this permit. Exemptions to the permit requirement are:

- The facility does not store more than 24 tires at any time.
- Any business that processes waste tires generated only at that site.

#### Waste Tire Site

Any facility or location storing 500 or more whole, cut, chipped or shredded waste tires is required to have this permit. A public notice or hearing is not currently required for this permit. A waste tire site permit must include a Financial Assurance Instrument (FAI). The FAI demonstrates the financial capability of the facility owner to properly close the site. A waste tire site must also have tire processing capability and a waste tire processing facility permit in order to qualify for a waste tire site permit.

#### Waste Tire End-User Facility Registration

Registration is required for any facility where waste tires or waste tire material are used as a fuel, fuel supplement or used to make a product and more than 100 waste tires are used for any purpose.

### **WASTE DIVERSION THROUGH THE THREE R's (Reduce, Reuse, Recycle)**

According to the *Missouri Policy on Resources Recovery*, the state of Missouri emphasizes reducing waste disposal and taking full advantage of resource recovery opportunities. Resource recovery means following the hierarchy of waste management as follows:

- First – reduce the amount of solid waste created
- Second – reuse, recycle and compost solid waste to the greatest extent feasible
- Third – recover energy from solid waste
- Fourth – incinerate or dispose of waste in a permitted landfill

Legislation in 1990 focused Missouri's solid waste management efforts by setting a goal to divert at least 40% of its waste from disposal. The department provides technical bulletins and other guidance documents to assist individuals, businesses, and local governments in achieving the goal. Technical and financial assistance is also available from the department.

To encourage recycling, composting and other alternatives to disposal, solid waste management laws and regulations minimize the permitting requirements for these activities. For example, source separated recycling facilities and yard waste composting facilities are not required to obtain a solid waste permit to operate. The department does advise that anyone interested in pursuing these types of activities should contact the Solid Waste Management Program at (573) 751-5401.

## **FINANCIAL INCENTIVES**

Incentives designed to promote Missouri's solid waste reduction objectives are provided by grants available through the Solid Waste Management Program's Solid Waste Management Fund and the Environmental Improvement and Energy Resources Authority's (EIERA) Market Development Program. Some of the grant programs available are:

- Missouri Market Development Program
- Solid Waste Management District Grants Program
- Waste Reduction and Recycling Grant Program
- Waste Tire Fund

Designed to promote recycling and resource recovery and develop markets for recovered materials in Missouri, much of these grant funds are available to small businesses, industry, local governments, and individuals. For more details, contact the Solid Waste Management Program (573) 751-5401, EIERA (573) 526-5555, or the Technical Assistance Program (800) 361-4827.

## **WASTE EXCHANGES**

An additional program available in Missouri to encourage waste reduction is the Industrial Material Exchange Service commonly known as the Waste Exchange. This is a bimonthly catalog coordinated by EIERA. The catalog lists the type and amount of reusable waste generated by a company that could be valuable to another. It is a free service. A Missouri business or citizen may participate by contacting EIERA to list a needless waste or indicate a usable waste they need. If requested, the listing will be included on the National On-line Network for Waste Exchanges. This program can turn a liability into a profit and reduce costs by substituting a waste for a raw product.

Contact the Technical Assistance Program or the Solid Waste Management Program for additional information regarding solid waste disposal areas, solid or infectious waste processing facilities or waste tire concerns.

# **TIER II REPORTING**

The **Emergency Planning and Community Right-to-Know Act** of 1986 established various reporting and notification requirements pertaining to a community's need to know about hazardous chemicals used or stored in their community. These reporting requirements provide the needed information for communities to plan for and respond to emergencies.

## **PURPOSE**

The purpose of the Emergency Planning Community Right-to-Know Act is to provide needed information to citizens about chemical hazards in their communities. Additionally it is intended to provide a means for local and state persons to coordinate with businesses to plan for emergencies. Tier II reporting provides the needed information for Local Emergency Planning Committees (LEPC) to develop plans and coordinate responses to potential emergencies. Emergency notification requirements provide the means for communicating real or potential emergencies plus estimating potential health impacts.

If you are an employer and store listed hazardous chemicals over a "threshold planning quantity" (TPQ), you are required to report the location and quantities of those chemicals to the local fire department, the LEPC, and the Missouri Emergency Response Commission (MERC). In Missouri, this reporting requirement is met by submitting a Tier II form on or before March 1 of each year. These regulations are contained in the Code of Federal Regulations at 40 CFR 355 and 370 and in the Code of State Regulations at 11 CSR 40-4. If you are subject to these regulations, you are also required to designate an Emergency Coordinator who will participate in the local emergency planning process.

In the event of an accidental spill or release of a "reportable quantity" (RQ) of a listed hazardous chemical, you are required to provide immediate notification to the LEPC or local fire department, the National Response Center, and the MERC. A written follow-up report is also required in these events. These reporting requirements are recorded in 40 CFR 370, 11 CSR 40-4 and 10 CSR 24-3. In Missouri, accident spill reporting to the MERC is accomplished by telephoning the Missouri Department of Natural Resources 24 hour Environmental Emergency Response Unit at (573) 635-2436.

For Extremely Hazardous Substances (EHS), a Tier II report is required to be filed with the state and local agencies within 60 days of bringing the chemical on-site over the TPQ. In Missouri, if a facility brings 100 pounds or more of explosives or blasting agents on-site, the owner must inform the fire department within 24 hours. If the explosives are to be on-site for more than 15 days a Tier II report must be provided to the fire department, the LEPC, and the MERC.

Missouri law also requires that buildings, rooms and containers where hazardous chemicals are stored be labeled with markings that conform to the National Fire Protection Association 704 standard.

## **REQUIREMENTS**

Per 40 CFR 355, there are three basic requirements:

1. Emergency Planning Notification

Within 60 days of having an extremely hazardous substance on-site over the TPQ, the facility must report that it is subject to the emergency planning requirements. In Missouri this is accomplished by submitting a Tier II report to the MERC.

## 2. Facility Emergency Coordinator Notification

Within 30 days of handling an extremely hazardous substance on-site, the facility is required to designate an emergency coordinator. This requirement can be met by submitting the same Tier II form as above to the LEPC and the MERC. Per the regulations, this person is required to participate in the local emergency planning process.

## 3. Emergency Notification

In the event of an accidental spill or release of a reportable quantity (RQ) of a listed chemical the facility is required to provide immediate notification to three persons or organizations: the community emergency coordinator (LEPC or fire department); the MERC by calling the 24 hour phone staffed by MoDNR at (573) 635-2436; and the National Response Center at (800) 424-8802.

The initial notification is to provide as much of the following information as is available at the time of the event;

- a) The chemical name or identity of the substance involved
- b) Whether the chemical is an EHS or not
- c) An estimate of the quantity released
- d) The time and duration of the release
- e) The medium or media into which released
- f) Any known or anticipated acute or chronic health risks associated with the emergency and where appropriate, advice regarding medical attention necessary for exposed individuals
- g) The names and telephone number of the person or persons to be contacted for further information.

A written follow-up notification is required to be submitted as soon as practical after a reportable accidental release. This notification is to include the above information along with any updated information, as available. The follow-up notification should also include what actions were taken to respond to and contain the release.

These notification requirements do not apply to releases which result solely in exposure to persons within the boundary of the facility; any release which is a federally permitted release as defined in Section 101 of CERCLA or any release which is continuous and stable in quantity and rate as defined in 40 CFR 302.8(b). The initial notification and written follow-up report are still required for continuous releases, plus other release restrictions may also apply.

There are two basic requirements according to 40 CFR 30

### 1. Annual Tier II Reporting

An annual Tier II report is required if any of the following apply:

- a.) The facility has more than 10,000 lbs. of a “hazardous chemical” for which a Material Safety Data Sheet (MSDS) is required under the

Occupational Safety and Health Administration (OSHA) hazard communication standard

- b.) The facility has more than 500 lbs., or the threshold planning quantity (TPQ), whichever is lower, of an “extremely hazardous substance”
- c.) The facility has more than 100 lbs. of explosives on-site for more than 15 days

The Tier II report is due on or before March 1 for the previous reporting year and copies must be supplied to the LEPC, the fire department, and the MERC.

2. MSDS Reporting

Under 40 CFR 370.21 there is an option to either submit MSDS sheets for each hazardous chemical or submit a list of the hazardous chemicals grouped by hazard category. Due to the large number of MSDS submitted by some companies, in Missouri, the MERC requests that only a list be submitted. If requested, MSDS must be supplied to the fire department or LEPC.

The easiest way to determine if your facility meets the reporting requirements is by obtaining the EPA publication, “Title III List of Lists”, document # EPA 550-B-98-017. This booklet lists all of the extremely hazardous substances as well as their reportable quantities (RQ) and threshold planning quantities (TPQ). This booklet can be obtained from the EPCRA Hotline at (800) 535-0202, from the MoDNR Technical Assistance Program at (800) 361-4827 or by accessing or downloading it from the Internet at <http://www.epa.gov/opptintr/tri/guidance.htm> or <http://www.epa.gov/ceppo/p-tech.htm>.

There is no “list” of all the chemicals that may require a MSDS per the OSHA hazard standard. These are simply chemicals that may pose physical or health hazards and are typically characterized as having one or more of the following properties: toxic, corrosive, flammable, or reactive. For more information about these chemicals refer to the OSHA regulations at 29 CFR 1900.1200.

# TOXICS RELEASE INVENTORY

## OVERVIEW

The **Emergency Planning Community Right-to-Know Act (EPCRA)** of 1986, also known as SARA Title III, is essentially made up of two parts, the Emergency Planning portion and the Community Right-to-Know. The Emergency Planning portion requirements were covered under the previous section entitled, Tier II Reporting. The Community Right-to-Know portion is commonly known as the Toxics Release Inventory or Section 313 reporting. It is also sometimes called Form R reporting.

The Form R is the portion of EPCRA that requires all manufacturing industries that manufacture, process, or otherwise use, over given thresholds of listed toxic chemicals, report the amounts of their releases to the air, land or water. They must report using the Form R submission form and submit reports to the EPA and to the state in which the facility resides. The Missouri Department of Natural Resources Technical Assistance Program is the responsible agency for Form R reporting in Missouri. Reports are due on July 1 of each year and cover the previous reporting year.

The EPA then makes this information available to the public through two primary publications: the *Public Data Release* for the subject reporting year and the *State Fact Sheets*, which summarize the data for each state. EPA also makes the information available through Internet web sites.

Before a company is required to report, they must meet three criteria. One, they must have at least ten (10) full time employees or an annual equivalent of 20,000 employee hours. Two, they must be a manufacturer with a Standard Industrial Classification (SIC) code between 2000 and 3999. In 1998, seven new industries were added that fall outside this range. These industries include the following:

- Metal Mining SIC 10 (except 1011, 1081 or 1094)
- Coal Mining SIC 12 (except 1241)
- Electric Utilities SIC 4911, 4931 and 4939 (limited to facilities that combust coal or oil for the purpose of generating electricity for distribution in commerce)
- Hazardous Waste Treatment SIC 4953 (limited to those facilities that are regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle C)
- Chemical and Allied Products SIC 5169
- Bulk Petroleum Stations SIC 5171
- Solvent Recovery Services SIC 7389 (limited to facilities that engage in solvent recovery services on a contract or fee basis)

The third requirement is that a company manufacture (defined to include importing), process or otherwise use any EPCRA Section 313 chemical in quantities greater than specified thresholds in the course of a calendar year. These thresholds are 25,000 lbs. for manufacturing or processing and 10,000 lbs. for otherwise use.

If a company determines that they meet these criteria, they must calculate how much of each of the TRI chemicals they have released to the air, land or water; or have shipped off-site for energy recovery, recycling, treatment or disposal.

Since the enactment of this regulation, the EPA has developed computer software to assist in submitting the TRI or Form R reports. This software is called Automated TRI Reporting Software or ATRS. This software allows you to submit data for any reporting year as well as being able to use the new Form A for “small quantities” reporting. The EPA and the state of Missouri encourage electronic submission, which means submitting a completed diskette. Electronic submission saves time for industry and the government. It also helps reduce data entry errors.

Form R reports must be submitted on or before July 1 of the year following the reporting year. In Missouri the only portion of Section 313 that was incorporated into state law was the state Form R reporting requirement. This is in 11 CSR 40-4.040(3). The federal regulations covering the TRI reporting requirements are in 40 CFR 372.

## **PURPOSE**

As its name implies, the purpose of EPCRA was to fulfill the basic premise that the citizens in a community have the right to know what types and to what degree they are being exposed to toxic chemicals. The TRI provides them with that information. The TRI, or Section 313 of EPCRA, does not limit or regulate the amount of toxic chemicals being used or released, it only requires that this information be made public.

The TRI has a significant impact on the manufacturing industry because no chief executive officer wants his or her company to be “tops” on this list. It also has the benefit of forcing companies to look at their waste streams and realize that chemicals released to the environment, or shipped off as waste, equate to money and lost profits. Thus, they also had a positive incentive to reduce the amount of wastes or pollution they generate and at the same time increase profits.

## **REQUIREMENTS**

As stated above, if a manufacturer, or any company has a listed SIC code and ten (10) or more full time employees, and manufactures, processes or otherwise uses a listed TRI chemical, they must report the amounts of their releases of this chemical to the environment.

For all of the listed chemicals or chemical categories, which are listed in EPA’s publication, “Title III List of Lists”, the manufacturing or processing threshold is 25,000 pounds. The otherwise use category is defined as a chemical that is used but does not actually become part of the product, such as solvents used in paints or cleaning solutions used to maintain production equipment. The threshold quantity for otherwise use chemicals is 10,000 pounds. Thus, if a company manufactures, processes or otherwise uses a listed TRI chemical over these thresholds in a calendar year they must then calculate or determine the amount of this chemical that is released to the environment. They must also determine how much is managed either on-site or off-site by one of the following methods: energy recovery, recycling, treatment or disposal. A variety of management methods and codes are available and can be found in the Form R

Instruction booklet supplied by EPA each year to reporting facilities. A copy of this booklet can be obtained by calling the EPCRA Hotline at (800) 535-0202.

An alternate threshold reporting option was established by EPA in 1994 (published in 59 FR 61488) which allows a facility to report using a shortened form known as Form A. If a facility manufactures, processes or otherwise uses less than 1,000,000 pounds of a listed chemical and would report less than 500 pounds of releases and/or off-site transfers of that chemical, they can use the Form A.

As stated above, the TRI Reporting Forms and Instruction booklet can be obtained by calling the EPCRA hotline. This booklet, along with the List of Lists, the ATRS reporting software, as well as a variety of other documentation, can be obtained from this number or by downloading from the Internet at [www.epa.gov/opptintr/tri](http://www.epa.gov/opptintr/tri).

The Form R or Form A is required to be submitted to both the EPA and the state. The reporting address for EPA can be found on the Form R or the Form A. An appendix in the instruction booklet also lists the addresses for all the state contacts. In Missouri the addresses are as follows:

Regular Mail

Missouri Department of Natural Resources  
Technical Assistance Program  
Attn: Gene Nickel (Form R/A)  
PO Box 176  
Jefferson City, MO 65101

Certified Mail

(Same as Above)  
1659 East Elm Street  
Jefferson City, MO 65101

It is preferred by EPA and the state of Missouri that reports be submitted using the ATRS software, on a 3.5-inch diskette. The Form R or Form A hard copy reports or the certification letter supplied with the diskette(s) must have an original signature for the EPA. An original signature is not required for the state of Missouri.

# TOXIC SUBSTANCE CONTROL ACT (TSCA)

The **Toxic Substance Control Act (TSCA)**, originally passed in 1976 and later amended, applies to manufacturers, processors, importers, distributors, users, and disposers of chemical substances or mixtures. The federal regulations administered by EPA's Office of Pollution Prevention and Toxics can be found in 40 CFR 700 to 799.

TSCA established a number of new requirements for identifying and controlling toxic chemical hazards to human health and the environment. TSCA gives EPA the authority to gather certain kinds of information on chemical risks from those who manufacture and process chemicals. It also enables EPA to require companies to test selected existing chemicals for toxic effects, and requires the agency to review most new chemicals before they are manufactured. To prevent unreasonable risk, EPA may select from a broad range of control actions under TSCA, from requiring hazard-warning labels to outright bans on the manufacture or use of an especially hazardous chemical. EPA may regulate a chemical's unreasonable risks at any stage in its lifecycle: the manufacturing, processing, and distribution in commerce, use or disposal.

TSCA is not a program delegated to the states like many other federal programs. The following eight product categories are exempt from TSCA regulatory authorities: pesticides, tobacco, nuclear material, firearms and ammunition, food, food additives, drugs, and cosmetics. Many of these product categories are regulated under other federal laws.

## TESTING OF CHEMICALS

TSCA gives EPA authority to require manufacturers or processors of certain existing chemicals (those already being distributed in commerce) to test the chemicals health and environmental effects. EPA exercises this authority only when it can make certain statutory findings about the substance involved and when industry fails to develop the needed data on its own. These required findings are:

1. that there are insufficient data already available with which to perform a reasonable risk assessment
2. that testing is necessary to provide such data
3. that a chemical may present an unreasonable risk of injury to human health or the environment or
4. that the chemical is produced in substantial quantities resulting in significant human exposure or environmental releases

Testing requirements are imposed only after a rulemaking proceeding, which includes opportunities for both public comments and an oral presentation at a hearing. An Interagency Testing Committee of government experts advises EPA on chemical substances that should be tested; however, actions are not limited to those recommended by the committee. The committee designates priority chemicals for testing. Then, EPA either initiates rulemaking for testing requirements for designated chemicals or publishes the reason why testing is not required.

Chemicals have become a pervasive and enduring part of our environment. They are in our air, water, and soil. They are used in manufacturing processes and are essential components for

consumer and industrial good. Prior to 1976 and the enactment of TSCA, there was not a comprehensive statute that authorized control of untested chemicals for their potential health or environmental effects. In the mid-1970's, public concern was growing over ineffective regulation of risky chemicals such as vinyl chloride, mercury, polychlorinated biphenyls (PCBs), and asbestos.

Since the enactment of TSCA, EPA has screened more than 70,000 new toxic chemicals before they were introduced into the stream of commerce. The most effective time to prevent unreasonable risks to public health and the environment is prior to first manufacture. The manufacturing of new chemical substances without providing EPA with its statutory 90 day review period to review the chemical substance creates a risk of harm to health and the environment that Congress regards as unacceptable. As a result of their prescreening chemical review, more than 500 chemicals are subject to specific EPA administrative orders requiring workplace or manufacturing controls thereby protecting and improving public health and the environment.

## **NOTIFICATION**

TSCA recognizes that health and environmental considerations are more easily addressed before, rather than after a chemical is produced and introduced into commerce. Thus, manufacturers or importers of a new chemical must give EPA a 90 day advance notification of their intent to manufacture or import a new chemical, except for those chemical categories specifically excluded by TSCA. Chemicals produced in small quantities solely for experimental or research and development purposes are automatically exempt from the premanufacture and significant new use notification requirements. In addition, any person may apply for an exemption for chemicals used solely for test marketing purposes or those determined by EPA not to present an unreasonable risk of injury to human health or the environment.

## **DISPOSAL**

Once a particular chemical is determined to be an unreasonable risk to human health and the environment, TSCA has the authority to regulate the disposal stage of a chemical's life cycle on a chemical-by-chemical basis. The RCRA has the authority to establish regulations and programs to ensure safe waste treatment and disposal of any number of chemicals and generally deals with waste streams, rather than individual chemicals.

TSCA also requires any person who manufactures processes or distributes in commerce any chemical substance or mixture to keep records of significant adverse reactions to health or the environment that allegedly were caused by the chemical. Records concerning health effects on employees must be kept for 30 years; other records must be retained for 5 years. EPA will not disclose confidential data, such as trade secrets and privileged financial data.

All health and safety information, submitted under TSCA, on chemicals in commerce is subject to disclosure. A person submitting other types of data to EPA may designate any part of them as confidential. EPA will treat such information as confidential until the agency determines that the information is not entitled to such protection. If the release of confidential business information is essential for the protection of the health or the environment, EPA may disclose it after notifying the persons who submitted the data in advance of any contemplated release.

## ENFORCEMENT

EPA can inspect any establishment in which chemicals are manufactured, processed, imported to, stored, or held before or after their distribution in commerce. No inspection shall include financial, sales, pricing, personnel, or research data, unless specified in an inspection notice. The agency can subpoena witnesses, documents, and other information as necessary to carry out TSCA. Civil actions concerning violations of or lack of compliance with TSCA may be brought to an U.S. District Court to restrain or compel the taking of an action. Any chemical substance or mixture that was manufactured, processed, or distributed in commerce in violation of TSCA may be subject to seizure.

## ASSISTANCE

EPA has established an office to provide technical and other nonfinancial assistance to chemical manufacturers, processors and others who are interested in requirements and activities under this law. To understand TSCA requirements, the TSCA Assistance Information Service (TAIS) has a telephone information service at (202) 554-1404 and technical assistance upon request. EPA's Office of Pollution Prevention and Toxics (OPPT) publishes a quarterly newsletter titled "Chemicals in our Community". This newsletter provides information on chemicals as well as OPPT's programs and services.

## TSCA AMENDMENTS

The **Asbestos Hazard Emergency Response Act (AHERA)** of 1986 added Title II to TSCA. This amendment established the asbestos abatement program in schools. In 1988, TSCA was amended by the **Indoor Radon Abatement Act**, which added Title III regulating radon. This amendment gave EPA the authority to address the growing concern over dangers posed by indoor radon exposure. It directed the EPA to identify areas of the U.S. that have the potential to produce elevated levels of radon.

Radon is a colorless, odorless, radioactive gas that has been found in buildings, homes, schools, and workplaces. Any building can have a radon problem, regardless of whether it is new, old, well sealed or drafty, or with or without a basement. Radon comes from the natural breakdown of uranium in soil, rock, and water and gets into the air you breathe. Radon typically moves up through the ground to the air above and into buildings through cracks and other holes in the foundation. Your home or office traps radon inside. Sometimes radon enters a building through well water. Radon can cause lung cancer and is second only to smoking as a cause of lung cancer in America.

EPA provides publications with information needed to make knowledgeable radon decisions. EPA has developed radon testing protocols. EPA's Radon Measurement Proficiency Program is designed to help you get reliable radon tests and follow quality assurance and test guidelines. EPA issues radon measurement proficiency reports for every state. This information is available to the public so that informed decisions regarding radon can be made.

For radon information and guidance when selecting a radon testing or mitigation business, contact the Missouri Department of Health, Bureau of Environmental Epidemiology at (800) 669-7236.

In response to continuing concerns about lead poisoning among American children, Congress passed the **Housing and Community Development Act** of 1992 which included the **Residential Lead-Based Paint Exposure Reduction Act**. This Act amended several existing housing, worker safety, and environmental statutes and amended the Toxics Substance Control Act by adding Title IV: Lead Exposure Reduction.

Title IV does not restrict lead-based paint activities but ensures that individuals engaged in such activities are properly trained, that training programs are accredited, and that businesses engaged in such activities are certified. Title IV also requires EPA to establish standards for performing lead based paint activities that are reliable, effective, and safe.

A good lead resource is the National Lead Information Center (NLIC). NLIC is a national resource center that supplies information about the hazards of lead-based paint and other environmental sources of lead. Its goal is to help citizens understand the sources of lead in the home and how to control lead hazards for the protection of children and adults. The NLIC also operates a clearinghouse which distributes a variety of documents on lead hazards and lead hazard prevention. For additional information contact the National Lead Information Center (NLIC) at (800) 424-LEAD or visit their web site at <http://www.epa.gov/lead>.

# WATER POLLUTION CONTROL

The basic framework for the current national water quality programs was put in place by Congress with the enactment of the **Federal Water Pollution Control Act (FWPCA)** of 1972, and the **Marine Protection, Research and Sanctuaries Act** of 1972. The **Clean Water Act (CWA)** of 1977 reorganized the FWPCA and added a major new program to control toxic water pollutants. Of the subsequent amendments to these statutes, the most significant are the **Water Quality Act** of 1987, which addressed storm water discharges, and the **Oil Prevention Act** of 1990, which tightened control of discharges of oil and hazardous substances.

In Missouri, the Water Pollution Control Program (WPCP) is responsible for protecting, maintaining, and improving the quality of Missouri's water. This entails prevention, abatement, and regulating wastewater discharges from commercial, industrial, and municipal sites in order to protect surface and ground water from contamination. The primary state enabling legislation is the Missouri Clean Water Law, Chapter 644 (RSMo). The portion of the Code of State Regulations (CSR) defining the organization and responsibilities of the Water Pollution Control Program is recorded in 10 CSR 20.

The primary purpose of the CWA is to restore and protect the quality of the nation's surface waters. As originally approved, the ultimate goal of the Act was to eliminate the discharge of pollutants into navigable waters. The surface waters covered by the Act are defined quite broadly and include rivers, lakes, intermittent streams, and even wetlands. Federally, the definition does not extend to ground water, which is covered by the **Safe Drinking Water Act**. Missouri's clean water law includes groundwater in the definition of "waters of the state".

CWA established the National Pollutant Discharge Elimination System (NPDES) to limit pollutant discharges into streams, rivers, and bays. EPA regulations can be found in 40 CFR 122. The WPCP administers the program in Missouri. The WPCP requires state operating permits for all point source discharges to waters of the state. The EPA maintains authority to review applications and permits for major dischargers, based on discharge quantity, and content.

The federal Clean Water Act requires cities and urbanized counties having populations over 100,000 to develop stormwater management plans and obtain discharge permits for stormwater outfalls. In Missouri this program is handled by the WPCP, which issues National Pollutant Discharge Elimination System (NPDES) permits. Companies must submit applications to the WPCP to ensure that stormwater discharges that enter streams directly from industrial facilities are also permitted.

## PERMITS

### Wastewater Construction Permit

If a business is located in an area where no wastewater treatment facilities are available, wastewater treatment for the business may be regulated by the Missouri Department of Natural Resources (MoDNR) or by Missouri Department of Health (DOH). The regulating authority is determined by the quantity of wastewater produced and whether the wastewater is considered domestic or industrial. Domestic wastewater or sewage is defined as human excreta and

wastewater, including bath and toilet waste, residential laundry waste, residential kitchen waste and other similar waste from household or establishment plumbing.

If the business will dispose of domestic wastewater with a design flow of less than 3000 gallons (design flow) per day to an approved no discharge soil absorption system, the business will be regulated by the Department of Health. Contacts may be made to the Department of Health (573) 751-6095 or the local county Health Department.

If the business will be producing 3000 gallons per day (design flow) or more of domestic wastewater or will be producing any other type of wastewater, the business is required to get a construction permit and a state operating permit from the Missouri Department of Natural Resources Water Pollution Control Program. Contact the Technical Assistance Program (TAP) or the local regional office for application information.

If the business is located in an area where wastewater treatment facilities are available, the municipality, sewer district or private sewer company responsible for the wastewater treatment facilities should be contacted for information about approvals, costs, and procedures for connection. Unless waived by the local authority, connection to an existing system is required.

#### Industrial Pretreatment Permit

If a business is located in an area where wastewater treatment facilities are available, and the business will be discharging industrial waste into the sewer system, an industrial pretreatment permit may be required. These permits will be issued by the wastewater system if it has a local pretreatment program approved by the Missouri Department of Natural Resources. If not, the permit will be issued by the MoDNR. A construction permit may also be required by the department.

#### National Pollutant Discharge Elimination System (NPDES) Permit

An NPDES permit required for operating a sewer or sewage treatment plant is referred to as a **state operating permit**. Land application of sludge and wastewater can be included under the same site-specific operating permit if the site is within a 20-mile radius. A facility may choose to apply for a general permit where available.

A general permit may be developed for a specific category of discharge or activities. The general permit contains a standard set of requirements. There are general permits for the land application of food processing wastewater and sludge and domestic sewage sludges including septage from a septic tank. A general permit must be obtained for each operating location which is not contiguous. The department may choose to require a permit on a case-by-case basis where determined to be necessary to protect human health and the environment.

Some Concentrated Animal Feeding Operations (CAFO) are required to have a No-Discharge State Operating Permit. Any operation where the animals are confined may require a No-Discharge State Operating Permit. This general permit does not apply to pasture operations. Contact the Technical Assistance Program's Agricultural Unit regarding any questions concerning CAFOs.

A state operating permit is required where there will be storm water runoff from certain industries. A state operating permit for storm water is also required if construction activity will disturb five or more acres of land. General storm water permits are available for many industries in Missouri. Some industries with general stormwater permits are lumber and wood processors, chemical manufacturers, and motor freight transportation.

#### 404 Permit

When construction or filling (including dredging or installing and repairing utility lines) will disturb a water of the U.S., including wetlands, a permit is required from the U. S. Army Corps of Engineers. Section 404 of the Clean Water Act requires a permit to excavate in or discharge dredged or fill material into a water of the United States.

Construction activities can be authorized in waters of the United States when the discharges of dredged or fill material meet the requirements of the federal Clean Water Act, Endangered Species Act, and National Wild and Scenic Rivers Act. Permits may be required even if the work is on private land. If the work is in a water area, or where water lays or runs part of the year, the activity may be regulated by federal law. Individuals, commercial enterprises, port authorities, marinas, and local, state and federal agencies need a 404 permit to work in waters of the United States.

Under Section 10 of the **Rivers and Harbors Act** of 1899, a permit may be required from the Corps of Engineers for any structure or work that takes place in, under or over a navigable water or wetland adjacent to navigable waters of the United States. The Corps of Engineers requires a completed federal application form with appropriate drawings and a copy of the letter sent to the Missouri Department of Natural Resources requesting Section 401 Water Quality Certification. Contact a U.S. Corps' Regulatory Branch with any questions:

Missouri State Regulatory Office  
221 Bolivar Street, #103  
Jefferson City, MO 65101  
(573) 634-5657

St. Louis District  
1222 Spruce Street  
St. Louis, MO 63103  
(314) 331-8575

Kansas City District  
700 Federal Building  
601 E. 12<sup>th</sup> Street  
Kansas City, MO 64106  
(816) 983-3990

#### 401 Water Quality Certification

Section 401 of the Clean Water Law requires an applicant for a federal permit for an activity which may result in a water quality problem in navigable waters to provide the federal agency an approval from the state water quality agency. In Missouri, the WPCP issues 401 Water Quality Certifications. A letter requesting water quality certification for the proposed project and one copy of the federal application including drawings should be sent by the applicant to the Missouri Department of Natural Resources Water Pollution Control Program. Contact TAP or the WPCP for information regarding 401 Water Quality Certification.

## **SLUDGE**

The **Clean Water Act** requires the EPA to establish minimum national standards for the use and disposal of domestic sludge. Sludge means solid, semi-solid or liquid residue removed during the treatment of domestic wastewater. EPA specifies the technical standards for sludge use and disposal in the federal rule, Title 40 Code of Federal Regulations Part 503, (40 CFR 503). This

regulation contains risk-based limitations for metals and pathogens, and includes best management practices. Sludge permit requirements for the National Pollutant Discharge Elimination System (NPDES) can be found in 40 CFRs 122, 123 and 501.

EPA Region VII handles the compliance assessment and enforcement of the 503 regulations. State operating (NPDES) permits are issued with the sludge requirements addressed in the Missouri Clean Water Law.

## **COMPLIANCE**

From production to disposal, the generator of the sludge is responsible for complying with all sludge standards and permit requirements. The generator is the person owning the wastewater treatment facility producing the sludge. An exception is the single family, residential septic tank. In this case, the septage hauler is the responsible party, rather than the homeowner.

The generator remains responsible for sludge disposal unless the sludge is hauled to another permitted sludge use or disposal facility. A contract hauler is considered an agent of the generator. The use of a contract hauler does not relieve the generator of the responsibility under the EPA regulations, unless the hauler obtains a separate sludge permit.

## **CONSTRUCTION PERMITS**

A state construction permit is required for all persons who build, erect, alter or replace facilities for sludge or biosolid storage, treatment or disposal. Each construction permit application must include engineering plans and specifications. Plans must be developed according to design regulations published in the Missouri Code of State Regulations (CSR) under 10 CSR 20. MoDNR will review the application. A public notice of the proposed permit action is then issued for a 30 day comment period. After resolving the public comment, the MoDNR issues a construction permit. The sludge management system must be built according to the approved design. A professional engineer (P.E.) must certify the complete construction.

## **OPERATING PERMITS**

Missouri's sludge regulations are incorporated into the standard conditions of the state-operating (NPDES) permit. A state operating permit is required for all persons who operate, use or maintain facilities for the storage, treatment or disposal of sludge or biosolids.

If you are a sludge generator, the sludge requirements are included in the wastewater discharge (NPDES) permit. If you are not a generator, but you operate a sludge use or disposal facility, a sludge-only permit is required. For new facilities, the operating permit application must include certification by a P.E. that the facility was built according to the construction permit.

For an existing facility built without a construction permit, the application must include as-built engineering plans and specifications. The facility must go through the same public notice procedure as a new construction project.

## **DISPOSAL AND REUSE REQUIREMENTS**

Sludge that is not reused as biosolids must be disposed in a permitted sludge disposal facility. There are two types of disposal: surface disposal and incineration. Surface disposal sludge requires a solid waste disposal permit under the Missouri Solid Waste Management Law. The

corresponding regulation can be found in 10 CSR 80-3. This applies to sanitary landfills, sludge monomials, sludge disposal lagoons, and other types of sludge disposal on land. Sludge disposal lagoons include any sludge-only lagoon, that has more than two years accumulation of sludge, unless an alternate storage and clean out plan has been approved by the MoDNR and the EPA.

The incineration of sludge must comply with air emission standards. The ash must comply with all other sludge use or disposal standards. Incinerating the sludge concentrates the metals and other inorganic pollutants in the ash, but does not reduce the environmental risks from these pollutants. Ash disposal must meet the same surface disposal requirements as other sludges.

Biosolids are treated sludge that has met the sludge standards for use as a fertilizer or soil conditioner. These standards include meeting metal limitations, pathogen reduction, vector requirements, and best management practices.

### **SEPTAGE REQUIREMENTS**

Sludge pumped from residential septic tanks and similar treatment works is considered septage. However, septage has fewer requirements for treatment and monitoring than other types of sludge. A general permit covers requirements for the land application of septage. Contract haulers for septage are responsible for complying with sludge standards and must obtain permits if they store, treat, land apply or dispose of septage. Septage may also be mixed with other sludges. The more stringent set of sludge standards would apply to the mixture.

### **RECORDKEEPING AND REPORTING**

Annual sludge reports are due January 28 of each year for the previous calendar year period. Report forms (Form S) are provided by the Missouri Department of Natural Resources and are approved for use by the EPA. This means Missouri permit holders may use the same form for reporting to both the Missouri Department of Natural Resources and the EPA. Keep detailed reports on file for at least five years. These records must be made available for inspection by the MoDNR. The department's Regional Offices will continue to handle permitting issues, complaints and lagoon closure plans. General sludge questions are to be directed to the Technical Assistance Program (800) 361-4827. Cynthia Sans, (913) 551-7492 is the contact for the 503 program at EPA Region VII.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL QUALITY  
REGIONAL OFFICES**

Jefferson City Regional Office  
210 Hoover Road  
P.O. Box 176  
Jefferson City, MO 65102-0176  
(573) 751-2729      fax: (573) 751-0014

Kansas City Regional Office  
500 N.E. Colbern Road  
Lee Summit, MO 64086-4710  
(816) 622-7000      fax: (816) 622-7044

Northeast Regional Office  
1709 Prospect Drive  
Macon, MO 63552-1930  
(660) 385-2129      fax: (660) 385-6398

Southeast Regional Office  
948 Lester Street  
P.O. Box 1420  
Poplar Bluff, MO 63901-1420  
(573) 840-9750      fax: (573) 840-9754

Southwest Regional Office  
2040 West Woodland Street  
Springfield, MO 65807-5912  
(417) 891-4300      fax: (417) 891-4399

St. Louis Regional Office  
10805 Sunset Office Drive, Suite 100  
St. Louis, MO 63127-1017  
(314) 301-7100      fax: (314) 301-7107

**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL QUALITY  
SATELLITE OFFICES**

Lake of the Ozark Satellite Office  
Camden County  
5568 A Hwy 54  
Osage Beach, MO 65065  
(573) 348-2442  
Mailing Address: P.O. Box 176  
Jefferson City, MO 65102-0176

Lincoln County Satellite Office,  
Cuivre River State Park  
678 State Rt. 147  
Troy, MO 63379  
(636) 528-4779

Mississippi River Project Office  
Wakonda State Park  
Rt. 1 Box 242  
LaGrange, MO 63448  
(573) 655-4178

Neosho / Joplin Area Satellite Office  
1900 S. 71 Highway  
Neosho, MO 64850  
(417) 455-5155  
Mailing Address: 2040 W. Woodland  
Springfield, MO 65807-5912

## **LOCAL AIR POLLUTION CONTROL AUTHORITIES**

Kansas City Health Department  
Air Quality Section  
2400 Troost Avenue, Suite 3000  
Kansas City, MO 64108  
(816) 513-6314      fax: (816) 513-6290

City of St. Louis  
Division of Air Pollution Control  
1415 North 13<sup>th</sup> Street  
St. Louis, MO 63106  
(314) 613-7300      fax: (314) 613-7275

St. Louis County Department of Health  
Air Pollution Control Section  
111 South Meramec Avenue  
Clayton, MO 63105  
(314) 615-8923      fax: (314) 615-8951

Springfield-Greene County  
Air Quality Control  
227 East Chestnut Expressway  
Springfield, MO 65802  
(417) 864-1662      fax: (417) 864-1499

**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
TECHNICAL ASSISTANCE PROGRAM**

**BUSINESS UNIT STAFF  
1-800-361-4827**

<b>NAME</b>	<b>TITLE</b>	<b>AREAS OF EXPERTISE</b>
Byron Shaw	Unit Chief Environmental Engineer	Air Pollution Water Pollution
Mark Lenox	Environmental Engineer	Air Pollution Hazardous Waste Petroleum Storage Tanks Water Pollution
Nancy Morgan	Environmental Engineer St. Louis Regional Office (314) 301-7100	Air Pollution Environmental Management Systems (EMS) Hazardous Waste
Gus Ralston	Environmental Engineer Kansas City Regional Office (816) 622-7000	Air Pollution Hazardous Waste Solid Waste
Omer Roberts	Environmental Engineer	Air Pollution Drinking Water Land Reclamation
Layli Terrill	Environmental Engineer	Air Pollution Hazardous Waste Water Pollution
Lucy Thompson	Environmental Engineer	Air Pollution Hazardous Waste Universal Waste Used Oil

## DEFINITIONS

**Applicable requirements** -- Neither the state nor the federal operating permit program contains extensive substantive requirements of its own. Both serve as vehicles for identifying all requirements applicable to the source. These requirements can include, but are not limited to, compliance, record-keeping, reporting, emission controls, emission limits, work practices, operating hours, and other matters stemming from federal and state air laws and regulations, and permits issued to allow construction or modification of the facility.

**Area Source** -- Any stationary source that is not a major source.

**Best Available Control Technology (BACT)** -- That pollution control method that is recognized as the one removing the greatest amount of air pollutants for a particular industry or process. Cost is considered in requiring BACT.

**Biosolids** -- Organic fertilizer or soil amendments produced by the treatment of domestic wastewater. Biosolids consist primarily of dead microbes and other organic matters. Untreated sludge or sludge that does not conform to related pollutants and pathogen treatment requirements are not considered biosolids.

**Closure** -- The act of securing a waste management facility in compliance with applicable requirements.

**Criteria Pollutant** -- Any air pollutant for which EPA has established a National Ambient Air Quality Standard (NAAQS): carbon monoxide, lead, nitrogen oxides, ozone, particulates and sulfur oxides. Criteria pollutants are measured in air quality control regions to determine whether the area meets or does not meet the federal air quality standard.

***De minimis* level** -- The threshold level of emissions where regulations apply.

**Discharge to State Waters** -- Release of pollution from a ditch, pipe or other conveyance to surface waters (lake, stream, creek, river or tidal wetland).

**Domestic wastewater** -- Wastewater from restrooms, sanitary conveniences of residences, cities, mobile home parks, subdivisions, restaurants, rest homes, resorts, motels, factories, stores, and other commercial businesses. It also includes industrial contributions when domestic and industrial wastewater are combined in a city sewer system.

**Emission Unit** -- Any part or activity of an installation that emits or has the potential to emit any regulated air pollutant.

**Fugitive emissions** -- Emissions, which according to good engineering practice could not pass through a stack, chimney, vent or other functionally equivalent opening.

**General Permit** -- A set of conditions that can be standardized for a number of facilities; use of general permits where possible eliminates individualized permits for similar situations and is cheaper and less burdensome administratively than individual permits.

**Grandfathered** -- A facility that was in existence before May 13, 1982. This applies to air pollution sources only.

**Hazardous Air Pollutant (HAP)** -- One of 188 substances and compounds for which EPA is establishing Maximum Achievable Control Technology (MACT) standards. A major source of HAPs is considered one that emits 10 tons per year of a single HAP or 25 tons per year of multiple HAPs.

**Hazardous Waste** -- Specific substances listed by EPA and any other substance that is corrosive, ignitable, reactive or toxic.

**Installation** -- All source operations, including activities that result in fugitive emissions, that belong to the same industrial grouping (that have the same two (2)-digit code as described in the Standard Industrial Classification Manual, 1987) and any marine vessels while docked at the installation, located on one (1) or more contiguous or adjacent properties and under the control of the same person (or persons under common control).

**Land Application** -- The incorporation of wastewater or sludge into the soil to either condition the soil or fertilize crops or vegetation grown in the soil.

**Like-kind** -- Refers to equipment that is essentially identical to or performs mechanically the same function as the equipment being replaced. The new equipment cannot cause any appreciable change in the quality or nature of the emissions of any air contaminant, or result in any increase in the potential to emit or the effect on air quality.

**Lowest Achievable Emission Rate (LAER)** -- The air emission rate that is the lowest possible for a type of facility for a specific pollutant; required of air pollution sources in air quality nonattainment areas.

**Major Source** -- Any source defined as major under the Prevention of Significant Deterioration program; in a nonattainment area; or all other sources not meeting the definition of PSD or nonattainment area who emit 100 tons per year of a regulated pollutant. For sources subject to federal MACT rules, a major source is one that emits 10 tons per year of a single hazardous air pollutant or 25 tons per year of any combination of hazardous air pollutants.

**Maximum Achievable Control Technology (MACT)** -- The maximum degree of reduction in air pollution for new and existing sources, taking into consideration cost, non-air quality health and environmental impacts, and energy requirements.

**Named Installations** -- A list of installations found in 10 CSR 10-6.020 (3)(A) and in Table II of this document. This list is used in the air construction and operating permit rules to identify types of sources of air pollution that must include fugitive emissions when determining the potential to emit.

**National Ambient Air Quality Standards (NAAQS)** -- Maximum allowable concentrations of pollutants that EPA may reasonably anticipate pose a danger to public health or welfare. When violated, the standards cause an area to be designated a nonattainment area.

**National Emissions Standards for Hazardous Air Pollutants (NESHAP)** -- Standards for asbestos, benzene, beryllium, inorganic arsenic, mercury, radionuclides, and vinyl chloride.

**New Source Performance Standards (NSPS)** -- Technology-based limits on air pollutants from new and modified sources.

**Nitrogen Oxides (NO<sub>x</sub>)** -- Oxides of nitrogen and is defined as the sum of the concentrations of NO<sub>2</sub> and NO, where NO<sub>2</sub> means nitrogen dioxide and NO means nitrogen oxide.

**Nonattainment Area** -- A geographic area that violates the National Ambient Air Quality Standards.

**Pilot Plants** -- Installations or emission units that are of new type or design which will serve as a trial unit for experimentation or testing and not production.

**Potential to emit (PTE)** -- The emission rate of any air pollutant at maximum design capacity. Annual potential is based on the maximum annual-rated capacity of the installation assuming continuous year-round operation. Federally enforceable permit conditions on the type of materials combusted or processed, operating rates, hours of operation or the application of air pollution control equipment must be used in determining the PTE.

**Pretreatment** -- Specialized industrial wastewater treatment, performed at the source, that makes the wastewater suitable for discharge to a public sewage system.

**Prevention of Significant Deterioration (PSD)** -- An air pollution permitting program intended to ensure that air quality does not diminish in attainment areas.

**Publicly Owned Treatment Works (POTW)** -- A sewage treatment works, normally for treatment of sanitary sewage, owned by state government, local government, utility authority or community.

**Radon** -- a colorless, odorless, radioactive gas that has been found in buildings, homes, schools, and workplace. It comes from the natural breakdown of uranium in soil, rock, and water.

**Septage** -- The biodegradable waste from septic tanks and similar treatment works. Septage includes the sediment, water, and grease and scum pumped from a septic tank.

**Site-specific permit** -- An operation permit that is developed with limitations based on a case-by-case review of site specific conditions.

**Sludge** -- Solid, semi-solid or liquid residue removed during the treatment of domestic wastewater.

**Sludge lagoon** -- An earthen basin that receives only sludge that has been removed from a wastewater treatment facility. It does not include wastewater treatment lagoons or sludge treatment units that are a part of a mechanical treatment.

**State Implementation Plan (SIP)** -- A plan through which a state institutes air quality protection measures that meet federal criteria. When approved by EPA, the state is delegated federal authority for air quality regulation.

**Stationary Source** -- An air pollution source permanently located in a single location.

**Storm water** -- That portion of rainfall that does not infiltrate into the soil or evaporate.

**Temporary Installation** -- An installation or air emission unit which operates or emits pollutants for less than two years.

**Volatile organic compound (VOC)** -- According to the Clean Air Act, VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, that participates in atmospheric photochemical reactions to produce ozone. A list of exempt compounds is found in 10 CSR 10-6-0.020 Definitions and Common Reference Tables.

**Waste tire** -- A tire that is no longer suitable for its intended purpose because of wear, damage or defect.

**Wetlands** -- Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, under normal circumstances, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.